

Arcam AVP700 Pre-amp. processor

**Préamplificateur-processor Arcam AVP700**

**Vorverstärker/Prozessor Arcam AVP700**

**Arcam AVP700 Voorversterker processor**

English

Français

Deutsch

Nederlands



**ARCAM**

# Safety guidelines



## CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

## ATTENTION

RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR



**CAUTION:** To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**CAUTION:** In Canada and the USA, to prevent electric shock, match the wide blade of the plug to the wide slot in the socket and insert the plug fully into the socket.

## Important safety instructions

This product is designed and manufactured to meet strict quality and safety standards. However, you should be aware of the following installation and operation precautions:

### 1. Take heed of warnings and instructions

You should read all the safety and operating instructions before operating this appliance. Retain this handbook for future reference and adhere to all warnings in the handbook or on the appliance.

### 2. Water and moisture

The presence of electricity near water can be dangerous. Do not use the appliance near water – for example next to a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool, etc.

### 3. Object or liquid entry

Take care that objects do not fall and liquids are not spilled into the enclosure through any openings. Liquid filled objects such as vases should not be placed on the equipment.

### 4. Ventilation

Do not place the equipment on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded. We recommend a minimum distance of 50mm (2 inches) around the sides and top of the appliance to provide adequate ventilation.

### 5. Heat

Locate the appliance away from naked flames or heat producing equipment such as radiators, stoves or other appliances (including other amplifiers) that produce heat.

### 6. Climate

The appliance has been designed for use in moderate climates.

### 7. Racks and stands

Only use a rack or stand that is recommended for use with audio equipment. If the equipment is on a portable rack it should be moved with great care, to avoid overturning the combination.

### 8. Cleaning

Unplug the unit from the mains supply before cleaning.

The case should normally only require a wipe with a soft, damp, lint-free cloth. Do not use paint thinners or other chemical solvents for cleaning.

We do not advise the use of furniture cleaning sprays or polishes as they can cause indelible white marks if the unit is subsequently wiped with a damp cloth.

### 9. Power sources

Only connect the appliance to a power supply of the type described in the operating instructions or as marked on the appliance.

### 10. Power-cord protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, and the point where they exit from the appliance.

### 11. Grounding

Ensure that the grounding means of the appliance is not defeated.

### 12. Power lines

Locate any outdoor antenna/aerial away from power lines.

### 13. Non-use periods

If the unit has a stand-by function, a small amount of current will continue to flow into the equipment in this mode. Unplug the power cord of the appliance from the outlet if left unused for a long period of time.

### 14. Abnormal smell

If an abnormal smell or smoke is detected from the appliance, turn the power off immediately and unplug the unit from the wall outlet. Contact your dealer immediately.

### 15. Servicing

You should not attempt to service the appliance beyond that described in this handbook. All other servicing should be referred to qualified service personnel.

### 16. Damage requiring service

The appliance should be serviced by qualified service personnel when:

- A. the power-supply cord or the plug has been damaged, or
- B. objects have fallen, or liquid has spilled into the appliance, or
- C. the appliance has been exposed to rain, or
- D. the appliance does not appear to operate normally or exhibits a marked change in performance, or
- E. the appliance has been dropped or the enclosure damaged.

## Safety compliance

This product has been designed to meet the IEC 60065 international electrical safety standard.

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#### The small print:

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# Before you start!

## Introduction

Thank you for purchasing the Arcam AVP700 Surround Sound Receiver.

The AVP700 is a home cinema processor built to Arcam's quality design and manufacturing standards. It combines high resolution digital processing with high performance audio and video components to bring you an unrivalled home entertainment centre.

The AVP700 allows switching and volume control of seven analogue and six digital sources; additionally, it has a built-in radio tuner. Since many of these sources are capable of putting high quality video signals out, the AVP700 includes broadcast-quality video-switching for composite-, S-video-, component-, RGB- and HDMI-video signals. Inputs and outputs for both tape and VCR, as well as a digital output, are provided for your recording needs and DVD-Audio or SACD are catered for via the multi-channel input. As well as using either the front-panel buttons or the IR-remote, the AVP700 can be controlled via the RS232 port on the rear; the port can also be used to upload future software enhancements.

As well as providing the audio and video for the main listening area, the AVP700 allows the same, or a different, source to be routed to a second area (called 'Zone 2'), such as the kitchen, bedroom, lounge, etc. Zone 2 can have full remote control over the source selection and volume in that area.

The installation of the AVP700 in a listening room is a process that requires care. For this reason, the installation information given in this handbook is very comprehensive and should be followed.

## Using this handbook

This handbook has been designed to give you all the information you need to install, connect, set-up and use the Arcam AVP700. The supplied remote-control handset is also described.

If your AVP700 has been installed and set up as part of your Hi-fi installation by a qualified Arcam dealer, you may wish to skip the sections of this handbook dealing with installation and move directly to the section detailing the operation of your unit. The contents listing on page 3 should help you find the sections of interest.

### Safety

Safety guidelines are set out on page 2 of this handbook.

Many of these items are common sense precautions but, for your own safety, and to ensure that you do not damage the unit, we recommend that you read them.

This is a class 1 product and requires an earth connection.

## What's in the box?

Please confirm that the following items are in the box when you receive it:

- Arcam AVP700 surround-sound receiver — the model number is shown on the right of the front panel of the player;
- Arcam CR-80 remote control with 2 'AA' batteries — the remote control model number is shown on the front at the bottom of the remote control;
- FM ribbon and AM loop antennae;
- Mains power lead appropriate for the mains supply in your area;
- Product registration card and envelope.

If any of these items are missing or incorrect, please contact your Arcam dealer immediately.

## Inserting the batteries into the remote control

The remote control requires 2 'AA' batteries to operate.

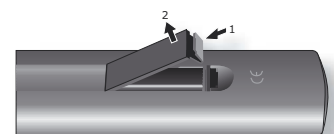
### Notes on inserting the remote control batteries

- Incorrect use of batteries can result in hazards such as leakage and bursting.
- Do not mix old and new batteries together.
- Do not use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Ensure that the plus (+) and minus (−) ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that is not going to be used for a month or more.
- When disposing of used batteries, please comply with governmental (or other) regulations that apply in your country or area.

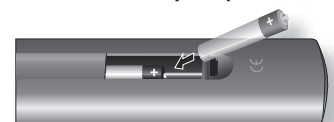
### Using the remote control

Please keep in mind the following when using the remote control:

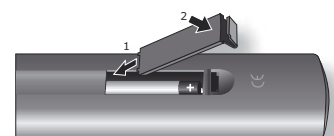
- Ensure that there are no obstacles between the remote control and the remote sensor on the AVP700. The remote has a range of about 7 metres.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the remote sensor of the AVP700.
- Replace the batteries when you notice a reduction in the operating range of the remote control.



1. Open the cover of the remote control battery compartment



2. Insert the batteries into the remote control



3. Close the cover of the remote control battery compartment

## Before making connections

Before connecting your equipment it is important to think about the following points, as these will affect your choice of connections and subsequent use of the system.

### Audio

Wherever possible, connect both the analogue and digital outputs of digital sources. This enables use of a digital input for the main zone with the corresponding analogue input used for recording onto an analogue tape deck or VCR, or for the Zone 2 output.

### Video

The AVP700 allows for conversion between different analogue video formats. This means that the AVP700 can convert between composite, S-video and component, if required.

For example, if you are watching a composite input from a VCR, you may view it from the S-video or Component/RGB video outputs of the AVP700. This allows you to use a single (typically high-quality Component/RGB) connection between the AVP700 and your display device. Neither the record loops nor Zone 2 work from the video converter, however. This means that to record a S-video or composite signal, a S-video or composite signal (respectively) must be supplied; to view video in Zone 2, a composite signal is required.

The analogue video quality hierarchy is as follows:

- Component/RGB – highest
- S-video – middle
- Composite – lowest

If all the video inputs are connected simultaneously from one device, e.g., a DVD player, the AVP700 will select automatically the best format available.

### HDMI

The AVP700 is fitted with two HDMI inputs and one HDMI output, allowing switching of HDMI signals. The AVP700 does not perform conversion between analogue audio/video and HDMI, but does allow an HDMI input to be associated with a particular source, so that selecting the source selects the associated HDMI input.

HDMI signals cannot be routed to Zone 2. If you are using an HDMI connection and you wish to have the same audio and video in Zone 2, then you will need additionally to provide analogue audio and video connections (as described above).

### Zone 2

A line-level signal from the stereo analogue audio together with the composite video inputs are available for Zone 2. The analogue inputs from source components are required because the AVP700 provides no analogue-to-digital, DSP processing or digital-to-analogue conversion; the composite video connections are required since the AVP700 does not perform video format conversion for Zone 2.

For these reasons, we recommend that source devices that have a digital connection are also connected to the analogue inputs. High quality YUV/RGB and S-video sources should also have their composite outputs connected to the AVP700 for use in Zone 2.



*HDMI (High Definition Multimedia Interface) supports both video and audio on a single digital connection for use with DVD players, digital TV, set-top boxes, etc. HDMI was developed to combine the technologies of High-bandwidth Digital Content Protection (HDCP) and the Digital Visual Interface (DVI) in one specification, with the addition of transmission of digital audio information; HDCP is used to protect digital content transmitted to DVI-compliant displays.*

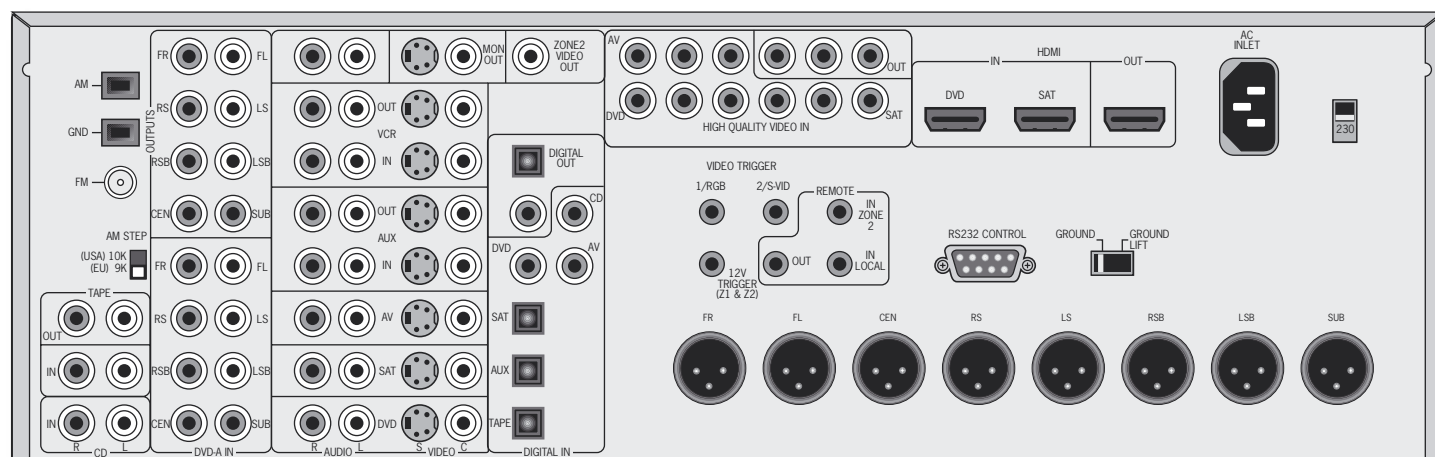
## Zone 2 explained

As well as routing audio and video signals to your main listening/viewing area, your AVP700 is capable of routing the same, or different, signals to a second location (a kitchen, bedroom or study, for example). This second location is called 'Zone 2'.

Although we have tried to make it as simple as possible, installation of the AVP700 for use with Zone 2 is usually quite complicated, principally because there are often several different ways of reaching the same goal. This flexibility means that the AVP700 will, almost certainly, be able to work in the way that you require, but some planning will be necessary.

If you wish to use a Zone 2, we recommend that you read the "Installation" section of this handbook thoroughly before beginning, in order to understand all the options available to you. If you have any questions, please contact your dealer: he will be happy to offer advice and assistance.

# Installation



## The AVP700 rear panel

### Positioning the unit

- Place the AVP700 on a level, firm surface.
- Avoid placing the unit in direct sunlight or near sources of heat or damp.
- Do not place the unit on top of a power amplifier or other source of heat.
- Ensure adequate ventilation. Do not place the unit in an enclosed space such as a bookcase or closed cabinet unless there is good provision for ventilation. The AVP700 may run warm, even during normal operation.
- Make sure the IR receiver in the centre of the front panel display is unobstructed, otherwise use of the remote control will be impaired. If line-of-sight is impractical, an infrared remote repeater can be used with the rear panel IR connector (this is described later in this handbook).
- Do not place your record deck on top of this unit.  
Record decks are very sensitive to the noise generated by mains power supplies, which will be heard as 'hum' if the record deck is too close.

### Notes on installing the AVP700

The inputs are named to make it easier to reference when connecting source components to the AVP700 (e.g., a DVD or VCR), but all inputs have the same circuitry. This means that there is no reason why you should not connect a different device from that labelled to any of the inputs. For example, if you had two DVD players and the AV input was not being used, then the second DVD player could be connected to the AV input.

#### Cables

We recommend the use of high quality screened analogue, digital and video cables, since inferior quality cables will degrade the overall quality of your system. Use only cables that are designed for the particular application as other cables will have different impedance characteristics that will degrade performance (for example, do not use cabling intended for audio use to carry video signals). All cables should be kept as short as is practically possible.

Video and digital connections must be made with cables that are designed for this purpose, i.e., coaxial cable with a 75Ω impedance. If substandard cables are used you may suffer from poor picture quality such as ghost images and/or grainy picture quality (snow).

Speaker cables should be kept short to ensure efficient power transmission and avoid audible distortion.

It is good practice when connecting your equipment to ensure that the mains power supply cabling is kept as far away as possible from your audio and video cables, as this will provide the best sound and picture quality. Failure to do so may result in unwanted noise in the audio and video signals.

## Audio connections

- Wherever possible, connect both the analogue and digital outputs of digital sources. This enables use of a digital input for the main zone and the corresponding analogue input for recording onto an analogue tape deck or VCR, and for the Zone 2 output if used.
- Take care to place the audio cables as far from any power supply cabling as is practically possible to reduce hum and other noise problems.

### Analogue audio connections

#### STEREO INPUTS

**2 VCR, 4 AUX, 5 AV, 6 SAT, 7 DVD, 17 TAPE IN, 18 CD.**

Connect the left and right outputs of your source equipment to the left and right inputs for each device.

#### Connection of record decks:

The AVP700 is not fitted with a phono pre-amplifier. If you wish to connect a record deck to the AVP700, then you will need an external pre-amplifier. Please contact your dealer for further information and recommendations on the best option for your system.

#### MULTI-CHANNEL DVD-A/SACD INPUTS

**8 RIGHT, 9 LEFT, 10 RIGHT SURROUND, 11 LEFT SURROUND, 14 CENTRE, 15 SUB.**

Connect the audio outputs of your DVD-Audio or SACD player to these input sockets.

**12 RS BACK, and 13 LS BACK.**

These are available for formats requiring eight channels. Currently no formats are available requiring these connections, but they are provided for future compatibility.

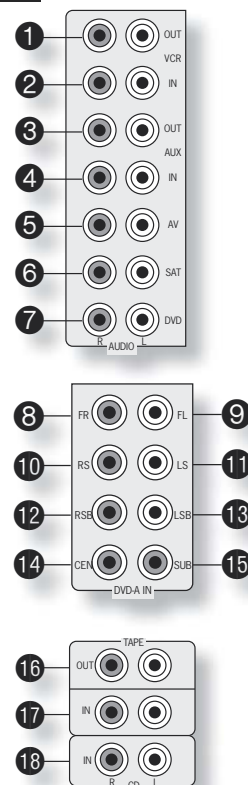
The multi-channel input is intended for use with sources that decode the surround channels internally, such as DVD-A or SACD players.

The AVP700 switches these analogue inputs directly to the analogue outputs via its volume control circuit. This direct path maintains the best possible sound quality for DVD-A and SACD sources; it has the side-effect that there is no bass-management for DVD-A or SACD players. In this case, the bass-management functionality of the player itself should be used.

#### STEREO OUTPUTS

**1 VCR OUT, 3 AUX OUT, 16 TAPE OUT.**

Connect the left and right audio outputs sockets to the left and right input sockets of your cassette deck, VCR or AUX (usually labelled 'RECORD IN'). The VCR/AUX connections may also be used for a second or third cassette deck.



### Digital audio connections

#### INPUTS

**21 CD, 22 DVD, 23 AV, 24 SAT, 25 AUX, 26 TAPE.**

Connect the digital outputs of your available source equipment to these inputs.

If required, each of these six inputs can be allocated to a different audio input from that indicated by the input label, through the 'Digital Settings' page of the Set-up menu. This means that, for example, if you wish to use an optical connection for your DVD player, the optical connection for the SAT, AUX, or TAPE can be used and the audio from that digital input assigned to the **DVD** button.

#### OUTPUTS

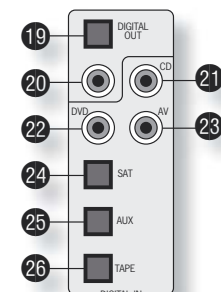
**19 20 DIGITAL OUT.**

Two digital output connections are available: optical and coaxial. The two connections carry the same information at all times and both may be used simultaneously. Connect the digital outputs to your digital recording devices such as a CD-R, digital VCR or MiniDisc player.

**When a digital source is selected,** the digital output will send an exact copy of the incoming digital signal. For example, for a 5.1 digital source, the digital output will also be in 5.1 format.

**When an analogue source is selected,** the digital output will be muted.

These outputs are also muted if a source is selected where the only connection for that source is HDMI. The digital audio from the HDMI link (if any) is not routed to these outputs.



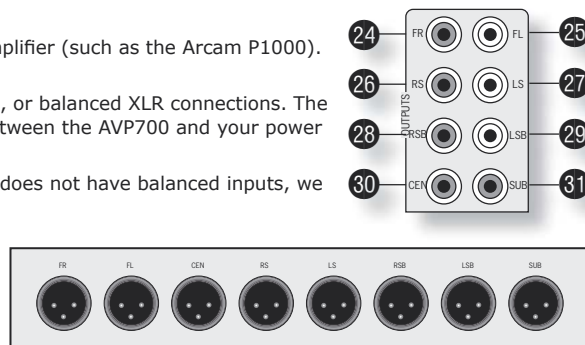
### Analogue pre-amplifier outputs

The pre-amplifier outputs are used to send signals your power amplifier (such as the Arcam P1000). All of these outputs are at line-level.

There are two connection types available: buffered phono outputs, or balanced XLR connections. The recommended connection type to use depends on the distance between the AVP700 and your power amplifier, and the type of power amp. that you are using.

- If the cables are less than 3m long, or the power amplifier does not have balanced inputs, we recommend the use of the buffered (phono) connections;
- If the cables are to be 3m or longer, the balanced (XLR) outputs are likely to give better results.

Note that it is not possible to damage either the AVP700 or your power amplifier by using the "wrong" connection type. The connection types may be mixed, if necessary.



Regardless of the connection type chosen, you should make connections as follows:

**FR** (Right) **FL** (Left), **CEN** (Centre): Connect these to the equivalent front channel inputs of your power amplifier.

**SUB**: Sub woofer output. Connect this to the input of your active sub woofer, if you have one.

**LS**: Surround left output. Connect this output to the surround left power amplifier input.

**RS**: Surround right output. Connect this output to the surround right power amplifier input.

**LSB, RSB**: Surround back left and right outputs (only used in 7.1 channel systems).

## Video connections

The AVP700 allows for conversion between different analogue video formats. This means that the AVP700 can convert between composite, S-video and component, if required.

For example, if you are watching a composite input from a VCR, you may view it from the S-video or Component/RGB video outputs of the AVP700. This allows you to use a single (typically high-quality Component/RGB) connection between the AVP700 and your display device.

The record loops do **not** work from the video converter. This means that to record a S-video or composite signal, a S-video or composite signal (respectively) must be supplied.

Note that no conversion between HDMI and any analogue video type (or vice-versa) is possible.

The following video conversions are possible:

| From: \ To:   | Composite | S-video | Component/RGB |
|---------------|-----------|---------|---------------|
| Composite     | Yes       | Yes     | Yes           |
| S-video       | Yes       | Yes     | Yes           |
| Component/RGB | No        | No      | Yes           |

Note that conversion between RGB and Component video (or vice-versa) is not supported by the AVP700.

### Composite/S-video video connections

#### 32 33 MONITOR OUT.

Two video output connectors are provided, one for S-Video and one for composite video. The outputs carry the same information at all times (and both may be used simultaneously, if required). Connect one of these outputs to the video input of your display device.

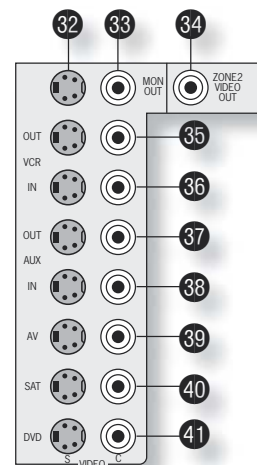
#### 36 VCR IN, 38 AUX IN, 39 AV, 40 SAT, 41 DVD.

Connect the composite video outputs of your source equipment to these inputs. The choice of connection to use (S-video or composite) depends on where the signal is to be routed to: if the signal is to be used in Zone 2, then a composite connection is required; if the signal is to be used for recording (routed to a VCR, for example), then the connection type must match the connection to the recording device (i.e., if the recording device requires a S-video signal, then a S-video connection from the source equipment must be used).

If both connections are made, the signal from the S-video input will be used for the main zone if no Component/RGB signal is supplied.

#### 35 VCR OUT, 37 AUX OUT.

Connect one of the S-video or composite video outputs to the video input of your VCR or AUX. The connection used must match the video type of the source you wish to record (as described above). For example: if you wish to record a S-video signal from your satellite receiver on your VCR, the connection to the VCR must also use S-video.



### Component video connections

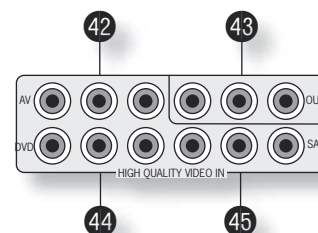
These inputs are suitable for connection to component (YUV/YCrCb) or RGB outputs. These signals are usually available from a DVD player, set-top box or games console and offer the best possible analogue picture quality.

Note that the high-quality component video connections operate independently of the composite/S-video connections.

Generally, the component video standard is used in North America/NTSC regions, while RGB is used in Europe.

**42 AV, 44 DVD, 45 SAT INPUTS.** Connect the video outputs of your high-quality video sources to these inputs.

**43 HIGH QUALITY VIDEO OUT.** Connect these sockets to the component video inputs of your display device.



### Important notes about HQ-video inputs and outputs

- In the 'Video Settings' set-up menu, each of these three high-quality component video inputs can be allocated individually to any of the other inputs, e.g., the input labelled "DVD" does not have to be used for DVD, but can be used for something else. See page 14 for further details.
- You cannot mix component and RGB sources. Selection of component or RGB can be made in the Set-up menu 'General Settings' page (see page 10).
- The high-quality component video inputs have sufficient bandwidth for line-doubled NTSC (525/60) or PAL (625/50) video ("progressive scan") and also US HDTV video signals. However, when used with such signals the OSD is not overlaid on the picture but is output at standard interlaced NTSC or PAL (525 or 625 line) rate on a solid background.
- When using the HQ-video inputs, the composite and S-video outputs will be muted. This is because the processing for the on-screen display would create invalid video signals on these outputs.



When you connect your devices to these connectors, take care to follow the letter/colour coding for each input. No damage will occur if connected incorrectly, but unusually coloured or unstable pictures will result.

### SCART RGB 4-WIRE CONNECTION

(SCART refers to the multi-pole A/V connector used commonly on European A/V equipment.)

Some video projectors and most European TV sets require the use of a 4-wire RGB connection, where the 'sync' signal is separate from RGB. In this case, you need to use the composite video **MONITOR OUT** 33 for the sync information. A cable is available from your dealer to make this 4-wire RGB connection (refer to the table of SCART connections at the back of the manual). Note that use of this feature requires (in addition to the RGB connections) a composite video connection between the source and the AVP700, in order to supply the additional synchronisation signal.

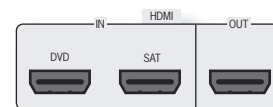
Note that most SCART TV inputs will require the SCART RGB status line to be controlled before the RGB signal will be displayed. The RGB trigger output will control this signal when connected to the SCART socket using a cable of the type given on page 32. These cables are available from your dealer.

The AVP700 does not support either 5-wire RGB HV or 3-wire RGB sync-on-green connections.

### HDMI

An HDMI connection between a source and your display device offers the best possible picture quality. This connection type is, however, the most limiting in terms of routing and conversion.

The AVP700 provides two HDMI inputs; these are labelled 'DVD' and 'SAT' in anticipation of the most common use for these connectors, but they may be used for any HDMI source. These inputs may be configured to be associated with any of the other sources, so that selecting that source ('AUX', for example), selects one of the HDMI inputs instead of the usual input associated with that source.



It is important to realise that analogue video sources cannot be routed by the AVP700 to the HDMI output, nor can either of the HDMI inputs be converted to analogue video (of any sort). The AVP700 acts simply as a switching device, selecting one of the inputs and routing it to the output.

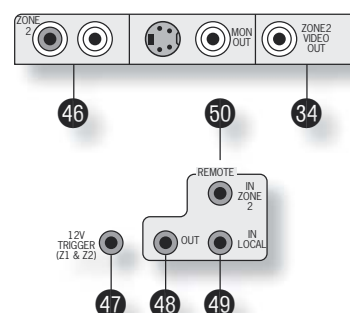
Keeping the above in mind, it will be necessary (as with the high-quality analogue video connections), to provide a composite video feed, in addition to the HDMI connection, if the video is to be routed to Zone 2.

## Zone 2 connections

The AVP700 allows independent routing and control of analogue audio and composite video to a second room such as a kitchen, bedroom or lounge. This second room is known as 'Zone 2'.

For Zone 2, the AVP700 outputs a line-level audio signal taken from the stereo analogue audio, and a composite video signal taken from the composite video input (for a given source). The analogue inputs are required because there is no analogue-to-digital, DSP processing or digital-to-analogue conversion available for Zone 2 signals. As the AVP700 does not convert video formats for Zone 2, a composite video signal must also be connected from the source.

For these reasons, we recommend that source devices that have a digital connection are also connected via the analogue inputs. High quality YUV/RGB and S-video sources should also have their composite video outputs connected to the AVP700 for use in Zone 2.



**NOTE:** As a composite input is required for Zone 2, it may not be possible to run your DVD player in progressive scan mode and to use Zone 2 at the same time, unless your DVD player can output both progressive scan and composite signals simultaneously.

#### 46 ZONE 2 OUT.

This is the audio output for Zone 2. Connect these to a line level input on your Zone 2 amplifier.

#### 34 ZONE 2 VIDEO OUT (Composite video connection).

This is the video output for Zone 2. Connect to your Zone 2 video display using 75Ω low loss coaxial cable.

#### 50 IN ZONE 2.

This allows the AVP700 to be controlled remotely from Zone 2 via infrared remote control. See the panel for connection information.

#### Zone 2 remote controller connection.

A receiver compatible with this connector 50 is available from Xantech (part no. 291-10). Please contact a Xantech registered dealer for this part, as ARCAM does not stock them.

See [www.xantech.com](http://www.xantech.com) for more information.

The 3.5mm jack plug for this connector is wired as follows:

| 3.5mm stereo jack | Function                  |
|-------------------|---------------------------|
| Tip               | Signal                    |
| Ring              | 0V                        |
| Sleeve            | 12V, 30mA current-limited |

This follows the Xantech standard for IR transmission over wire.

## Connecting the AM and FM antennas

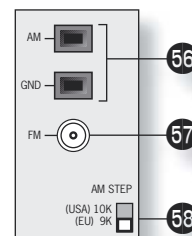
### FM antenna

A VHF antenna is required to receive FM radio signals.

Although a VHF ribbon antenna is supplied as an accessory to the AVP700, for optimal FM radio reception a roof- or loft-mounted aerial is advised as this will give superior reception. It is recommended that any roof-top antenna is fitted by an experienced contractor as a contractor will be able to align your antenna to the nearest FM transmitter.

In some areas cable radio may be available or, in an apartment building, a distributed antenna system may be installed. In either of these cases you should have sockets in your home marked FM or VHF (do not use those marked TV), which should be connected to the FM in socket 57 of the AVP700.

If you wish to use the supplied FM ribbon cable, mount this as high up as possible on a wall with the 'T'-elements positioned horizontally. Try each usable wall of the room to see which gives best reception and use tacks or adhesive tape to secure the aerial in a T shape (note that no tacks should come into contact with the internal wire of the aerial). When assembled (see box, right), the plug on the ribbon cable should be connected to the FM-in socket 57 of the AVP700.



**Connecting the plug to the FM ribbon cable:**  
 1) loosen the two screws on the plug;  
 2) insert the spade connectors of the ribbon cable under the screws;  
 3) re-tighten the screws onto the connectors.

### AM antenna

An medium wave antenna is required to receive AM radio signals.

An AM loop antenna is supplied as an accessory with the AVP700. This should be attached to the AM antenna inputs 56 with one end connected to 'AM' and the other to 'Ground' (it does not matter which way round this antenna is fitted). Rotate the antenna to discover which position gives the best reception.

In areas of weak reception, or when the AVP700 is in use inside a steel-framed building (such as an apartment building), you can use a wire between 3 and 5 metres long to strengthen reception. Mount this high up outside the building (if possible) and connect one end of this wire to the AM antenna input **in addition to** the loop aerial supplied (do not disconnect the AM loop antenna).

### AM STEP SIZE

The AM tuning 'step size' needs to be set according to your location. This is done using the switch on the rear panel 58: set it to 10kHz if you are in North America or 9kHz anywhere else. Note that this should be set correctly even if you do not intend to use AM reception as it also alters some FM tuner settings for use in North America.

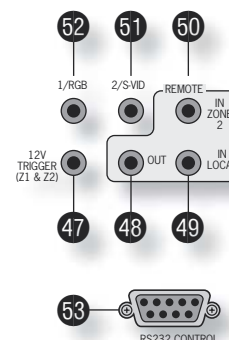
## Control connections

**48 (REMOTE) OUT.** This puts any remote control signal out that is received by either the front panel or from one of the remote control connections. It allows remote control of source components; control is possible by either connecting this output to the devices to be controlled via the 3.5mm IR jack socket (Arcam units only) or by using an IR emitter stuck to the centre of the IR sensor window on the source component (such as a Xantech 283MW mini emitter).

**49 IN LOCAL.** Use with a local IR receiver when the AVP700 front panel IR receiver is obstructed.

**50 IN ZONE 2.** This allows the AVP700 to be controlled remotely from Zone 2 via infrared remote control (see section 'Zone 2 connections' above for further details).

**53 RS232 CONTROL** Use with control devices having an RS232 serial port (for example, Crestron and AMX touch screen controllers). This connection is also used for upgrading control software. See the sections at the end of this manual for control and programming information.



### Trigger outputs

There are three trigger output sockets on the AVP700, each of which is a 3.5mm stereo jack with two contacts, 'tip' and 'ring'. See the tables for technical information on the trigger outputs.

**47 12V TRIGGER.** This can be used for turning on and off automatically power amps or source equipment for the main zone and Zone 2. The trigger lead is wired as shown in the panel.

**52 VIDEO TRIGGER 1, 51 VIDEO TRIGGER 2.** These trigger outputs have different functions depending on how the 'Video Status' has been set in the 'General Settings' menu. See page 10 for full details.

| Connection | Function     | Voltage                    |
|------------|--------------|----------------------------|
| Tip        | Main zone on | On = 12V, 30mA<br>Off = 0V |
| Ring       | Zone 2 on    | On = 12V, 30mA<br>Off = 0V |
| Sleeve     | Ground       | 0V                         |

## Connecting to a power supply

**54 POWER INLET.** The AVP700 has a dual voltage power supply that can be switched between 120V and 230V AC. As supplied, this switch should be set correctly for your local supply.

**55 GROUND LIFT switch.** In complex set-ups that include satellite inputs or radio antennas, grounding the unit may increase the level of background hum or buzz in the loudspeakers. If this occurs, set the **GROUND LIFT** switch to lift the signal ground from the chassis ground.

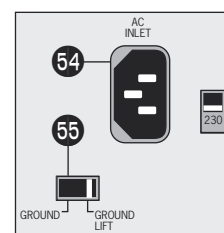
**DO NOT REMOVE the safety earth from the mains cable under any circumstances.**

### Mains lead

This appliance is normally supplied with a mains plug already fitted to the lead. Check that the plug supplied with the unit fits your supply. Should you require a new mains lead, contact your Arcam dealer.

### Plugging in

Push the plug (IEC line socket) of the power cable supplied with the unit into the power input socket (54) in the back of the unit. Make sure it is pushed in firmly. Put the plug on the other end of the cable into your power supply socket and switch the socket on.



# Configuring the AVP700

The AVP700 'Set-up Menu' has six 'Basic' and six 'Advanced' menu screens that take you through the configuration process. The 'Basic' menus enable you to match your AVP700 to your speakers; the 'Advanced' menus allow you to optimise the operation of your system. Screen shots of these menus are shown in shaded boxes on the following pages.

The best way to set the AVP700 up is using the on-screen display (OSD). **To view the OSD for the initial set up, use the composite video output to connect to your TV.** This is because the high quality video output has several display modes and may be incompatible with your high quality display device in its default configuration. **The OSD will not be visible at all if you try to use an HDMI connection.**

## Set-up mode

To enter the Set-up menus press and hold the **MENU** button on the remote control or on the front panel, for at least two seconds. The 'Set-up Menu Index' is displayed on your display device.

### Set-up Menu Index

The Set-up menu index page is the first page that is displayed when the Set-up menu is entered. This page allows you access to the six 'Basic' and six 'Advanced' menus.

#### Setup Menu Index

|             |               |
|-------------|---------------|
| Basic       | Advance       |
| 1.General   | 1.Speaker Eq. |
| 2.Spkr Size | 2.Video       |
| 3.Subwoofer | 3.Digital     |
| 4.Delays    | 4.Zone 2      |
| 5.Level set | 5.Input Trim  |
| 6.EX        | 6.HDMI        |

Save Setup Exit menu

### Navigating the Set-up menu

#### ... BY USING THE REMOTE CONTROL

The Set-up menu can be navigated by using the cursor (arrow) keys on the remote control. This is by far the easiest method.

1. To enter the Set-up menu, press and hold the **MENU** button (which is located immediately under the navigation buttons) for at least two seconds, until the Index page appears. (Pressing the menu button for just a short time will take you to 'Main Menu Screen 1'. If this happens, the Main Menu can be closed by pressing **MENU** for a second time.)
2. When the menu heading is highlighted, using the  and  keys will navigate between menu pages. Using this method to navigate between pages the first time the unit is being configured will help to ensure that no pages are missed out.
3. Use the  and  keys to navigate up and down the menu lines.
4. To change the setting for a particular menu item, highlight the item then use the  and  keys to cycle through the options for that item.
5. Once you have set all the menu items on a page to have values that are appropriate for your system, move the menu highlight to the top of the screen (the menu heading) and press  to move to the next menu page.
6. At any time, press the **MENU** button to return to the main Set-up menu index screen.
7. To save the changes you have made, return to the Set-up menu index page and highlight the 'Save Set-up' item at the bottom of the screen. Press the **OK** button to save the settings. Press **OK** again to exit the Set-up menu.

In addition to the above method of moving from page to page using the  and  keys, each menu page can be accessed directly from the Set-up menu index page. This is achieved by using the cursor keys to move the menu highlight to the desired page on the Index page, then pressing **OK**.

#### ... BY USING THE BUTTONS ON THE FRONT PANEL OF THE AVP700

The AVP700 front panel controls can be used to configure the options. Follow the instructions given for using the remote control, in this case using the **EFFECT/▼** button for 'down', the **MODE/▲** button for 'up' and the volume control for left and right.



# The 'Basic' Set-up Menus

## 1 – General Settings:

**Max Volume:** This limits the maximum volume setting the system can be turned up to. This is a useful feature to prevent accidental over-driving of low power-handling speakers, for example.

**Max On Volume:** Limits the maximum volume the system operates at when it is first switched on. The system comes on at the 'Max On Volume' if the last used (possibly very loud) volume exceeds this value.

**Delay units:** Controls whether the delay settings for the speakers in surround modes are specified in Imperial or Metric measurements from the listening position, or in terms of time. The delay setting itself is set on screen 4 of this menu, described on page 14.

Note that changing the units resets all distances/times to zero. It is therefore important to choose the units (Time, Imperial or Metric) before set up.

**OSD Mode:** Controls how the on-screen display is viewed.

■ **MIXED:** the OSD will appear on top of the existing video picture

■ **FULL PAGE:** the OSD is displayed in white on a full screen black background. On video signals that have a sync rate of greater than the normal interlaced rate (i.e., progressive scan, frame-scaled video, HDTV) the OSD will automatically go into Full Page mode (black background) so that the control menu can be seen. Any pop-up displays (such as the volume bar, source selection information, etc.) will be switched off.

Note that no on-screen display is available over the HDMI connection.

**Video Status:** The video status control is intended for use with SCART connections, but may find use for other purposes. It is possible to use a SCART connection between the AVP700 and your television even though the AVP700 does not have a SCART socket; a pin-out for a SCART lead suitable for this purpose is given on page 32. We suggest the 'SQART' cables manufactured by QED ([www.qed.co.uk](http://www.qed.co.uk)); please ask your dealer for details.

This setting controls the two video triggers ⑤① ⑤② on the rear panel and is used to inform the AVP700 which type of video connection is present between it and your TV. Note that if you do not wish to use the video triggers or a SCART connection, then it does not matter which value this item has. This setting has no effect on the HDMI output.

This item has four settings: **COMPOSITE**, **S-VIDEO**, **RGB** and **SCRN CTRL**.

**Composite:** This mode is used to indicate to your TV that composite video is being sent. It uses the trigger labelled **1/RGB** ⑤① (which should be connected to the RGB SCART input on your TV), as shown. Select this option if you are using the composite video output of the AVP700. The **2/S-VIDEO** trigger is not active in this mode.

**S-Video:** This mode is used to indicate to your TV that S-video is being sent. It uses the trigger labelled **2/S-VIDEO** ⑤②, as shown. Select this option if you are using the S-video output of the AVP700.

Note that, if this option is selected, the connection labelled 'S-video SCART' (or similar) must be used on the TV, as not all SCART connectors are wired for S-video.

The **1/RGB** trigger is not active in this mode.

**RGB:** This mode is used to indicate to your TV that RGB video is being sent. It uses the trigger labelled **1/RGB**, as shown. Select this option if you are using the RGB output of the AVP700. If this option is selected, the connection labelled 'RGB SCART' (or similar) must be used on the TV, as not all SCART connectors are wired for RGB.

The **2/S-VIDEO** trigger is not active in this mode.

**SCRN CTRL:** The two video triggers on the rear panel have the same signal for all outputs. This will be +12V when any video source is selected, otherwise 0V. This can be used (for example) to unfurl projector screens automatically when a video source is selected.

### 1 – General Settings

Max Volume: 100  
Max On Volume: 60

Delay Units: Metric  
OSD Mode: Full Page  
Video Status: RGB  
HQ Video: RGB

#### 1/RGB trigger output with **COMPOSITE** selected:

| Connector | Function                                                                | Voltage                                                                                    |
|-----------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Tip       | RGB mode select                                                         | 0V                                                                                         |
| Ring      | RGB/composite SCART input select (CVBS status)<br>Aspect ratio 4:3/16:9 | Video present, aspect 4:3 = 12V<br>Video present, aspect 16:9 = 6V<br>No video signal = 0V |
| Sleeve    | Ground                                                                  | 0V                                                                                         |

#### 2/S-VIDEO trigger output with **S-VIDEO** selected:

| Connector | Function                                                          | Voltage                                                          |
|-----------|-------------------------------------------------------------------|------------------------------------------------------------------|
| Tip       | Video source trigger                                              | Any video source selected = 12V<br>No video source selected = 0V |
| Ring      | S-video SCART input select (CVBS status)<br>Aspect ratio 4:3/16:9 | Aspect 4:3 = 12V<br>Aspect 16:9 = 6V<br>No video signal = 0V     |
| Sleeve    | Ground                                                            | 0V                                                               |

#### 1/RGB trigger output with **RGB** selected:

| Connector | Function                                                                | Voltage                                                                                    |
|-----------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Tip       | RGB mode select                                                         | RGB video = 1V (into a 75ohm load)                                                         |
| Ring      | RGB/composite SCART input select (CVBS status)<br>Aspect ratio 4:3/16:9 | Video present, aspect 4:3 = 12V<br>Video present, aspect 16:9 = 6V<br>No video signal = 0V |
| Sleeve    | Ground                                                                  | 0V                                                                                         |

#### 1/RGB and 2/S-VIDEO trigger outputs with **SCRN CTRL** selected:

| Connector | Function             | Voltage                                                |
|-----------|----------------------|--------------------------------------------------------|
| Tip       | Main zone on trigger | Main zone turned on = 12V<br>Main zone turned off = 0V |
| Ring      | Main zone on trigger | Main zone turned on = 12V<br>Main zone turned off = 0V |
| Sleeve    | Ground               | 0V                                                     |

**HQ Video:** Choose between **RGB** or **YUV**; if you have a YUV display, set this item to **YUV**, otherwise set it to **RGB**.

This setting controls the routing of the HQ-video within the AVP700, either as 3-wire YUV or 4-wire RGB signals (with the synchronisation signal on composite for RGB). In addition, it controls the operation of the S-video/composite-to-HQ video converter.

When set to YUV, incoming composite and S-video signals are converted to YUV; in RGB mode, the incoming signals are converted to RGB, with the synchronisation signal on the composite output.

This setting has no effect on the HDMI output.

## 2 – Speaker Sizes

The size and number of loudspeakers are defined on this page.

**Auto Set-up:** Allows the setting of 'standard configurations' as in the table below:

| Speaker       | Config. 1 | Config. 2 | Config. 3 | Custom                              |
|---------------|-----------|-----------|-----------|-------------------------------------|
| Front L/R     | Small     | Large     | Large     | Small/Large                         |
| Centre        | Small     | Small     | Small     | Small/Large/None                    |
| Surr L/R      | Small     | Small     | Large     | Small/Large/None                    |
| Surr Back L/R | Small     | Small     | Small     | Small/None                          |
| Sub-woofer    | Present   | None      | Present   | Present/None                        |
| 5.1 Rears     | Both      | Both      | Both      | Surr L/R/<br>Surr Back L/R/<br>Both |

The **Custom** setting allows you to choose any combination of speakers to suit your system. Note that the centre and rear speakers cannot be set to 'large' if the front speakers are set to 'small'.

**5.1 Rears** defines how the speakers in a full '7.1' installation handle 5.1 decoded sources.

- **SURR L/R** redirects 5.1 surround signal to the surround left and right speakers. No signal will be directed to the surround back left or right speakers.
- **SURR BACK L/R** redirects 5.1 surround signal to the surround back left and right speakers. No signal will be directed to the surround left or right speakers.
- **BOTH** redirects the 5.1 surround signal to both pairs of speakers with the signal to each set reduced by 3dB.

A note on speaker sizes:

A **Large** speaker is one that is capable of handling a full range signal (i.e., 20Hz–20kHz).

A **Small** speaker is one that is not capable of reproducing a deep bass signal (i.e., below 100Hz), for example a satellite speaker.

**None** indicates that there is no speaker connected to that channel.

### 2 – Speaker Sizes

Auto Setup: Config1

Front L/R: Small  
Centre: Small  
Surr L/R: Small  
Surr.Back L/R: Small  
Sub Woofer: Present

5.1 Rears: Both

## 3 – Sub woofer Settings

If no sub woofer was selected in the previous speaker menus then some of the items on this page will not be adjustable.

**Cross-over Freq.:** This setting defines the frequency at which bass redirection begins. Frequencies below this level are redirected from 'small' speakers to the Fronts or to the sub woofer; frequencies above this level are not redirected. The value for this setting depends on your speakers, environment and taste, and is best determined by experimentation.

The adjustment can be made in increments of 10Hz between 40Hz and 130Hz.

**Stereo Mode:** Select between Large, Large+Sub or Sat+Sub.

If you have configured your system to have a sub woofer, then you have the flexibility to choose how bass information is distributed between the front left/right speakers and the sub woofer when listening to stereo sources. Choose the option which gives you the most solid even sounding bass (for best results test with a set-up disc or live program material).

- **LARGE:** Pure stereo information — all audio is sent to the front left and right speakers. Use this setting if you have large front speakers.  
Note that this option will override the setting configured on the "Speaker Sizes" menu page.
- **LARGE+SUB:** Pure stereo is fed to left and right and extracted bass is sent to the sub woofer. In this case the low frequency information is, effectively, duplicated.
- **SAT+SUB:** Use this setting if you have 'Small' satellite left and right speakers. Full bass management is used in analogue stereo so that analogue sources are fed to the DSP where the bass is filtered off left and right and redirected to the sub woofer.

Note that the above three Stereo Mode settings pass the audio through the signal processor of the AVP700, which may degrade the sound quality slightly. This can be avoided for the 'Large' setting by pressing the **DIRECT** button to bypass this processing.

**DTS LFE Gain:** DTS soundtracks typically have the LFE track recorded 10dB lower than the main audio tracks. It is, therefore, necessary to compensate for this by raising the LFE output level by 10dB, and setting the DTS LFE gain to 'Normal' activates this compensation. Some DTS soundtracks have been recorded with the LFE signal at the same levels as the main audio, however, and therefore require no gain compensation. For these disks set the DTS LFE gain to -10dB.

- **NORMAL:** This increases the LFE signal by 10dB and is the recommended setting for the AVP700.
- **-10DB:** This allows the LFE to pass directly to the output with no gain adjustment.

Unfortunately, there is no rule for determining which discs are recorded using which method. As a general guide, however, it is only early DTS music discs that require the -10dB setting.

### 3 – Subwoofer Settings

Cross-Over Freq.: 40Hz

Stereo Mode: Large

DTS Lfe Gain: 0dB Normal

Sub Stereo: -----I 0dB

DVD-A Sub Level:  
0dB Normal

**Sub Stereo:** This setting allows the volume level of the sub woofer to be adjusted for when the sub woofer is being used with 2-channel (stereo) sources. The sub woofer level for stereo music often needs to be set at a lower level than that for cinema use; use this trim setting, with a stereo source, to reduce the sub woofer output in stereo playback to an acceptable level. The level required depends on various factors such as speakers, the types and styles of music to be played and personal taste.

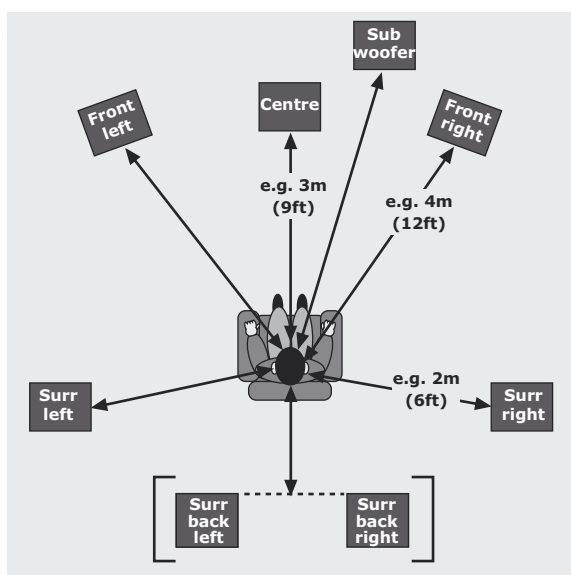
**DVD-A Sub Level:** This setting allows compensation for sub woofer level gain from external decoders or sources (such as DVD-A players).

When decoding digital inputs, the AVP700 follows the convention for products of this type and sets the sub woofer level 10dB higher than that of the other channels. Source products such as DVD-audio players do not follow this pattern, however, setting the sub woofer level to be the same as the other channels. This means that switching from material that has been decoded by the AVP700 to that decoded externally may mean that the sub woofer sounds very quiet. This setting provides for the removal of that difference by allowing the sub woofer level of the DVD-A (multi-channel) input to be raised by 10dB.

- **NORMAL:** No gain compensation. This allows the DVD-A sub level to pass directly to the output with no gain adjustment.
- **+10dB:** This increases the DVD-A (multi-channel input) sub level by 10dB

If you are using the AVP700 in combination with the multi-channel analogue outputs of an Arcam DVD-A player, then this item should be set to '+10dB'.

## 4 – Speaker Delay Settings



**Distance measurements for 5.1 [and 7.1] speaker delay settings**

can help to ensure accurate and correct signal arrival times from all the channels to the primary listening position.

No measurement can be entered for a speaker that is not selected in the previous 'Speaker Sizes' menu.

The relative positioning of speakers within a room may mean that sound from some speakers arrives at the listener later than sound from others. By altering the delay settings for the different speakers, this difference in arrival time can be reduced or eliminated.

When setting the delay, it should be imagined that the listener is sitting in a circle of the speakers; the delay indicates the distance of the speaker from the listener.

The speaker distance control can be used to set automatically the appropriate time delays required for all the speakers in your system. To use this, measure from the usual listening position to the front of each individual speaker in the system and enter this value in the appropriate place. The measurements can be entered either in feet or (more precisely) in metres, as selected from the 'General Settings' menu page. 1 foot is approximately 0.3 metres.

An alternative to using the speaker distance control is to enter the delays manually in milliseconds.

Note that the delay adjustment is not a substitute for proper speaker placement, but it

### 4 – Delay Settings

|                   |      |
|-------------------|------|
| Front Left:       | 0.0m |
| Centre:           | 0.0m |
| Front Right:      | 0.0m |
| Surr. Right:      | 0.0m |
| Surr. Back Right: | 0.0m |
| Surr. Back Left:  | 0.0m |
| Surr. Left:       | 0.0m |
| Sub Woofer:       | 0.0m |



*Enter these delay settings only once you have specified which delay units (i.e., Time, Imperial or Metric) you wish to use. Your settings will be lost if the units are changed.*

*If the delay units are set to Time, then enter the delay in milliseconds for each channel.*

## 5 – Level settings

The relative sensitivity of different speakers can lead to some speakers sounding disproportionately loud or quiet, relative to others in the system. The level settings of your AVP700 can help to address this in-balance.

It is important to calibrate the speakers correctly to achieve an accurately centred sound stage. If possible, we recommend you use a sound pressure level meter (SPL meter) to perform this part of the set-up as it is difficult to judge the levels accurately by ear alone.

### Test Tone Cycle

- **MANUAL** is best for setting up with a SPL meter as the test tone will not change to the next speaker until instructed by you. Pink noise is emitted by the highlighted speaker; when you wish to measure a different speaker, move the highlight to the new speaker.
- **AUTO** is best for setting up by ear. In this state, the test tone changes automatically between speakers after a two second burst of sound.

On first installation, watch the OSD display as you cycle through the available speakers with the test tone. Check that the speaker generating the sound corresponds to that indicated on the OSD. If there is a discrepancy then check and correct the system cabling before proceeding further.

To calibrate the speakers with a SPL meter, place the meter at ear level with the microphone pointing towards the ceiling, when seated in the usual listening position. (You will need to set the meter to 'C', setting with a 'slow' response and to read 75dB SPL at the centre of the scale.) If you do not have a SPL meter, simply set the front left speaker to 0dB on the menu and then match all the other speakers to this level.

Each speaker can be fine-tuned by 1dB increments to  $\pm 10$ dB. The output from each speaker needs to be adjusted to the 75dB SPL sound level. No adjustments can be made for a speaker that is not selected in the previous 'Speaker Sizes' menu. Note that inserting headphones into the front panel of the AVP700 will cause all test-tones to be muted (including the headphone output).

### 5 – Level Settings

```
Test Tone Cycle:Normal
Front L:    ---I--- 00dB
Centre:     ---I--- 00dB
Front R:    ---I--- 00dB
Surr. R:    ---I--- 00dB
Surr. BR:   ---I--- 00dB
Surr. BL:   ---I--- 00dB
Surr. L:    ---I--- 00dB
Subwoofer:  ---I--- 00dB
```



*If you are using a 6.1 speaker configuration (a single surround back speaker), we recommend connecting the surround back speaker to the surround back left channel of the AVP700.*

*In this case, the level of the connected surround back channel should be increased by 3dB (i.e., the SPL meter should show a response of 78dB for this channel).*

## 6 – EX Settings

**Surr. EX:** This can either be set to **AUTO** or **MANUAL** and is applicable only when playing 'Surround EX'-encoded material.

- **AUTO DD EX:** The AVP700 will switch automatically to 'Surround EX' decoding when suitably encoded material is detected (this can be temporarily overridden by pressing the **MODE** button on the remote control).
- **AUTO PLIIX MOVIE:** The AVP700 will switch automatically to 'Pro Logic IIX Movie' decoding when suitably encoded material is detected (this can be temporarily overridden by pressing the **MODE** button on the remote control).
- **MANUAL:** The AVP700 will not select Surround EX automatically. It can however be selected manually by pressing the **MODE** button.

### Use Channels 6+7 for

Choose one from:

- **DOLBY SURR EX:** 'Dolby Surround EX' provides two additional rear channels from 5.1 channel EX-encoded material. This is intended to give better effects steering. In this mode, amplifier channels 6 and 7 are used to drive the EX speakers.
- **ZONE 2:** In this mode, amplifier channels 6 and 7 are used to provide speaker level output for use in Zone 2.
- **BIAMP L+R:** The amplifier channel 6 and 7 are used to provide a second amplified output of the left and right channels. This allows you to bi-amplify your front speakers, which should give an improvement in the sound quality of these channels.  
If you would like to do this, please refer to page 26 for further information.

### 6 – EX Settings

Surr. EX: Manual

Use Channels 6+7 For:  
DD SurrEX



*Changing this setting will require you to change the configuration of the cables connected your speakers.*

## The 'Advanced' Set-up Menus

### ADV 1 – Speaker Eq.

This allows fine adjustment of bass and treble in 1dB steps (up to  $\pm 6$ dB) for each of the speakers in the system. Use these adjustments sparingly to compensate for speaker response problems caused by positioning, adjacent surface textures, or mixed brands of loudspeakers.

Work with one speaker on at a time and, as an example, use the bass control to reduce boom problems for speakers placed in corners, and the treble control for speakers placed near reflective surfaces. We recommend trying to obtain a good speaker response by speaker placement first, then apply speaker equalisation last.

The tone control nominal corner frequencies are at 100Hz and 8kHz, shelf type.

**Auto Stereo Tone Bypass:** Set this item to **YES** if, when a stereo input signal is detected (analogue or digital), the tone adjustments set on this page are to be bypassed. (Note that this does not switch the AVP700 into 'Direct' mode, it simply sets the tone controls to zero.)

```
Adv1 - Speaker Eq.
Bass      Treble
All--I--  0dB --I--  0dB
FL --I--  0dB --I--  0dB
C  --I--  0dB --I--  0dB
FR --I--  0dB --I--  0dB
SR --I--  0dB --I--  0dB
SBR--I--  0dB --I--  0dB
SBL--I--  0dB --I--  0dB
SL  --I--  0dB --I--  0dB
AUTO Tone Bypass:Yes
```

### ADV 2 – Video Settings

This menu allows advanced adjustment of the video settings for your AVP700.

**Zone 1 OSD:** Selects whether the main zone OSD is on or off.

- When set to **ON**, all user adjustments that are made during the general use of the AVP700 are displayed on the screen. This includes the adjustment of the volume control, the inputs selected and the set-up menus.
- When set to **OFF**, there will be no display of the general user adjustments – only the set-up menus and the main menus are displayed.

It is recommended you keep the OSD turned **ON**, since if you cannot see the front panel of the AVP700 you will have no idea if any adjustments you have made to the processor are correct or to your liking.

**Video Inputs:** Composite and S-video inputs for DVD, Sat, AV, VCR and AUX have their audio and video assigned to track each other by default. The five 'Video Input' lines for Tape, CD, FM, AM and DVD-A allow assignment of a video source to these normally audio-only sources. If desired, it is possible to allocate the same video source to more than one audio input. This facility allows you to listen to an audio source and view a separate video source at the same time – for example, you can listen to radio while watching TV for a sports simulcast.

**HQ Video DVD, AV and SAT:** Allocate the high quality component or RGB video inputs to any source buttons. For example, to assign the Component/RGB video from the 'HQ Video DVD' input to the **DVD** button, set the 'HQ Video DVD' item in this menu to 'DVD'.

If **HQ-VIDEO** is set to **RGB** (as described on page 13) and an HQ-video input is assigned to a button, the AVP700 assumes that RGB signals are present for that input if a composite signal is found on the corresponding composite input. **If this assignment is made but no RGB signals are supplied, the display will be blank for the assigned source.**

For HDMI video assignment, please see "ADV 6 – HDMI Settings".

```
Adv2 - Video Settings
Zone 1 OSD:      On
Video Input Tape: None
Video Input CD:  None
Video Input FM:  None
Video Input AM:  None
Video Input DVD-A:None
Input:           Button
HQ Vid DVD:None
HQ Vid AV :None
HQ Vid SAT:None
```

### ADV 3 – Digital Settings

**Coaxial inputs and Optical inputs.** Each of the digital inputs can be assigned to any of the seven stereo source buttons (**CD**, **TAPE**, **DVD**, **SAT**, **AV**, **VCR** and **AUX**), or can be assigned **No button**.

This menu page lists the physical inputs, as per the back panel, on the left hand side of the screen, with the buttons used to select the inputs listed on the right hand side.

Each digital input can be allocated only to one source button. For example, if you choose the 'Coaxial DVD input' to be assigned to the **DVD** button, then the choices for the other digital inputs are: **CD**, **TAPE**, **SAT**, **AV**, **VCR**, **AUX** and **NO BUTTON**. If you wish to re-allocate the DVD input to a different button, 'Coaxial DVD input' must be assigned to a different button (or **No button**) before you can re-assign the DVD input.

```
Adv3 - Digital Settings
Coaxial inputs
Input: Button:
CD:      CD
AV:      AV
DVD:     DVD
Optical inputs
Input: Button:
SAT:     Sat
AUX:     AUX
TAPE:    Tape
```

## ADV 4 – Zone 2 Settings

**ZONE2 VOL:** Sets the volume for Zone 2.

**Max Vol 20–83:** Limits the maximum volume setting for Zone 2. This is a useful feature to prevent accidental over-driving of low power-handling speakers, for example.

**Fix Vol:** This selects between fixed and variable audio output to Zone 2. If **NO** is selected, the output level can be controlled from Zone 2 or the main system. If you wish to fix the volume level, first set the Zone 2 volume to the desired level, then select **YES**.

**Max On Vol:** Limits the maximum volume Zone 2 operates at when it is first switched on. Zone 2 comes on at this volume if the last used volume exceeds this value.

**Stand-by:** This allows zone 1 (the main zone) to be put into stand-by, either locally only or by Zone 2 as well.

- **LOCAL ONLY:** Only the main zone will be switched into stand-by from the main zone.
- **ALL OFF:** Both the main zone and Zone 2 will be switched into stand-by from the main zone.

**Access:** This acts as a 'parental control' device to disable or enable access to sources for Zone 2.

Press the unwanted source button on the remote control handset or front panel to disable it for Zone 2. Press again to enable the source.

Enabled sources are listed on the 'Access:' line of the menu page.

### Adv4 - Zone 2 Settings

Max Vol 20-83: 83  
Fix Vol: No  
Max On Vol: 50  
Standby: Local Only

Access: DV/ST/V2/V1/AV/  
CD/FM/TP

## ADV 5 – Analogue Settings

**Input trims:** Allows the adjustment of the input sensitivity of the analogue inputs (in Volts RMS) so that each one achieves the optimum dynamic range and sounds similar in loudness to the others.

Available level settings are: **LOW 0.5V**, **MEDIUM 1V**, **REFERENCE 2V**, **HIGH 4V**. The reference level of 2V should be appropriate for most inputs.

If a source is very quiet compared with the other sources you can increase its loudness by selecting the **MEDIUM 1V** or **LOW 0.5V** settings.

### Adv5 - Analogue Settings

DVD: Low 0.5V  
Sat: Low 0.5V  
AV: Low 0.5V  
AUX: Low 0.5V  
VCR: Low 0.5V  
Tape: Low 0.5V  
CD: Low 0.5V

## ADV 6 – HDMI Settings

**DVD and SAT:** Allocate the HDMI inputs to any source buttons. For example, to assign the HDMI input labelled 'DVD' to the **VCR** button, set the 'Input: DVD' item in this menu to 'VCR'.

### Adv6 - HDMI Settings

HDMI inputs  
Input: Button  
DVD: DVD  
SAT: Sat

## Saving Settings and Exit Set-up

You can either save the settings now or exit without saving the changes.

### Save Set-up

1. Press **MENU** to go to the 'Set-up Menu Index' at the 'Save Set-up' point.
2. Press **OK** to save.
3. Press **OK** to select 'Exit Set-up' and exit system configuration.

### Exit without saving

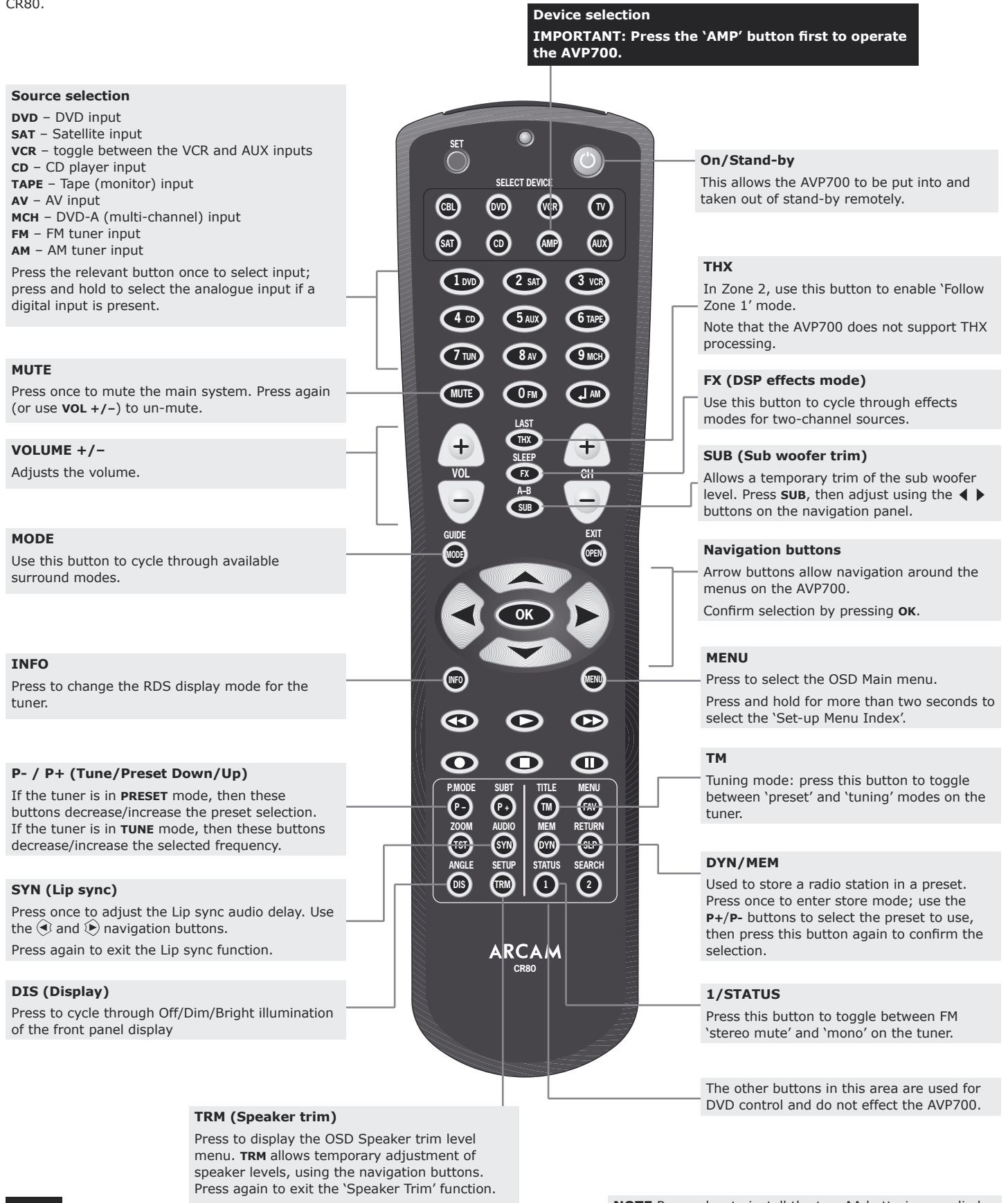
If you choose to 'Exit Set-up' without first saving the changes, then the new settings will be lost.

1. Press **MENU** to go to the 'Set-up Menu Index' at the 'Save Set-up' point.
2. Press **▶** to select 'Exit Set-up'.
3. Press **OK** when 'Exit Set-up' is selected to exit system configuration.

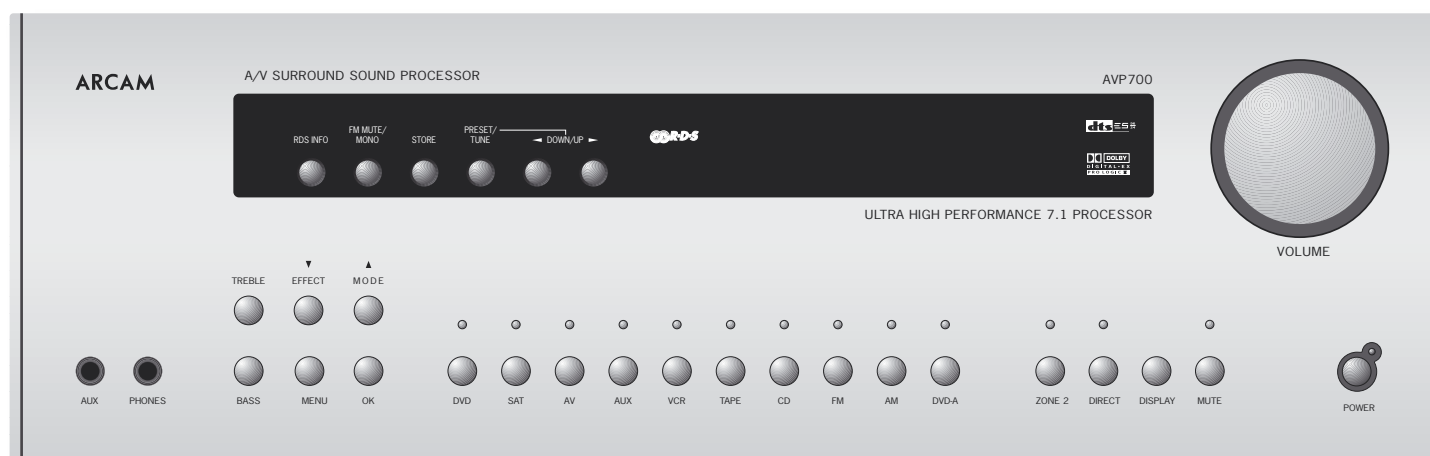
# Remote control

The CR80 remote control is a multi-function unit that controls the AVP700 and up to seven other devices. The instructions on this page only refer to the control of the Arcam AVP700.

For information on using the remote control for other devices, and a full list of features, see the instruction booklet supplied with the CR80.



# Operating your AVP700



For information display we recommend you use the OSD on your TV/screen whenever possible. However, all key information is also duplicated one line at a time on the front panel display of the AVP700.

## Switching on/off

Press the power button in. After approximately two seconds, the power LED will turn green and the current input and volume level will be shown; after a further 10 seconds, the AVP700 is ready for use.

Please wait until the unit has finished initialising before attempting to operate the AVP700. It is recommended that if the unit is switched off, you should wait at least 10 seconds before switching the unit back on.

### Stand-by

The AVP700 has a stand-by mode which can be entered by pressing the green stand-by button on the remote control. When in stand-by mode the display is blank and the power LED glows red. If you do not wish to put Zone 2 into stand-by at the same time as the main zone, press and hold the stand-by button on the remote control for about 3 seconds. After this time, the front-panel of the AVP700 will display the text "Main Off", before going into stand-by; the LED for Zone 2 will be illuminated to show that Zone 2 is still operating.

When not being used, the AVP700 may be left in stand-by mode, as power consumption is low. If you are not using your AVP700 for several days, however, we recommend you switch the unit off completely using the front panel power button.

To switch on from stand-by, press one of the source buttons on the front panel or on the remote control, or use the stand-by button on the remote control.

## Volume control

To adjust the volume level of the loudspeakers, pre-amp outputs and headphones use the volume control knob. The volume level is shown on the display. Note that different sources may require different settings of the volume control to achieve the same perceived volume level.

It is important to realise that the value indicated for the volume level is not an accurate indication of the power delivered to your loudspeakers. The AVP700 may deliver its full output power long before the volume control reaches its maximum position, particularly when listening to heavily recorded music. In comparison, some movie soundtracks can appear to be very quiet, as many directors like to keep the maximum levels in reserve for special effect sequences.

The volume can be controlled over a range of 100dB in 1dB steps.

### Muting the volume

Pressing the **MUTE** button will mute the output of the AVP700 to the speakers and from the 'pre-amp out' connectors (the output to the record loops remains unaffected). 'MUTE' will be shown on the display while in this state.

Press **MUTE** for a second time (or adjust the volume) to exit the mute state.

## Front panel display

In normal operation, the display shows the current volume setting; smaller illuminated areas indicate the audio input type (digital or analogue) and the digital stream type (if applicable). If the processing mode changes (for example, from Dolby Pro Logic decoding to Dolby Digital 5.1), then this will be displayed "in large letters" for about 2 seconds.

### Changing the display brightness (the **DISPLAY** button)

It is possible to select the illumination level of the front panel display. Press **DISPLAY** on the front panel or **DIS** on the remote to cycle through the three illumination levels (Off/Dim/Bright).

## Input selection

To select a particular source, press the corresponding button on the front panel or on the remote control. There are eight inputs available: DVD, Sat, AV, AUX, VCR, Tape, CD and DVD-A (multi-channel). In addition, AM and FM radio reception can be selected from the built-in tuner. Any picture signal associated with the selected input is switched to the monitor output.

On selecting a source, the AVP700 will attempt to use the digital input in preference to an analogue input, assuming a digital signal is detected for the source. If you want to override the digital input and select the analogue input instead, however, this can be achieved by pressing and holding the button for the selected source for at least two seconds.

The processing mode and 'Stereo Direct' functions are remembered and recalled for each input. The digital input and high quality video input associated with each source may be configured in the device menus.

The **DVD-A** input is intended for direct analogue pass-through of DVD Audio or SACD surround sources. Apart from volume control and level trim, no processing is performed on this input.

---

### Tape operation

The **TAPE** button selects the audio from a cassette deck connected to the **TAPE IN** phono sockets of the AVP700.

Pressing the **TAPE** button will select audio from the tape input; the **TAPE** LED will illuminate, together with the LED of the previously selected input. Illuminating the tape and source LEDs indicates that the tape loop is active and indicates the source that will be recorded.

#### Example:

If you want to record from the CD input:

- Select the **CD** input;
- Press the **TAPE** button – you can now listen to the sound returned from the recording device. In the case of a three-head cassette deck, this will be the audio as recorded onto the tape.

Note that selecting a different source from CD will cause the recording to change to this new source.

---

### VCR/AUX Operation

The AVP700 has VCR and AUX record loops for audio and video (Composite and S-video only). These are configured to allow recording of the source that you are watching.

- Pressing the **VCR** or **AUX** button selects audio and video from the VCR/AUX input.
- The **VCR/AUX** LED will illuminate, together with the LED of the previously selected input.

Illuminating the VCR and source LEDs indicates that the tape loop is active and indicates the source that will be recorded.

For example, if you want to record the SAT input:

- Select the **SAT** input then put your VCR/AUX into record pause so that it will monitor its input.
- Press the **VCR** or **AUX** button (as appropriate), and you can now watch the audio and video actually being recorded by your VCR/AUX from the satellite system.
- Note that, if you select a different source from SAT, the recording changes to this new source.

## Stereo Direct

To listen to a pure analogue stereo input, press the **DIRECT** button. The Direct mode bypasses automatically all processing and any surround functions. In Direct mode, digital processing is shut down to improve the sound quality by reducing the digital noise within the AVP700 to an absolute minimum. The LED above the **DIRECT** button on the front panel will illuminate to indicate this mode.

**Important note:** When "stereo direct" mode is enabled, bass management is disabled. For this reason, "stereo direct" mode is not recommended in systems comprising small 'satelite' speakers, as the full-frequency information that would be directed to these units may cause damage to the speaker.

## Zone 2

Pressing the **ZONE 2** button allows both the volume and the source being viewed in Zone 2 to be changed from the main zone. While in this 'Zone 2' mode, the LED above the Zone 2 button is illuminated.

When first pressed, the text **ZONE2 SRC** is displayed on the front panel (where 'SRC' indicates the source being viewed in Zone 2). Pressing the source buttons on the front panel while in this state changes the source routed to Zone 2; moving the volume knob adjusts the Zone 2 volume.

To exit this state, press **ZONE 2** a second time.

## Headphones

To use headphones with the AVP700, plug the headphones into the **PHONES** socket on the left hand side of the front panel.

When headphones are plugged into the headphones socket the main output is muted.

## Effects/FX

The **EFFECT** button (**FX** on the remote) cycles through the available effect modes. The effects are only available when the AVP700 is in stereo mode.

For more information on the effects, see the section 'DSP Effects Modes', page 25.

| Effect | Description                                                      |
|--------|------------------------------------------------------------------|
| None   | No effects active, stereo signal                                 |
| Music  | Extracted ambience and centre information                        |
| Party  | All speakers on                                                  |
| Club   | Small room                                                       |
| Hall   | Medium reverberant room                                          |
| Sport  | Very reverberant with extracted ambience and dry centre dialogue |
| Church | Long reverberant room                                            |

## Mode

When a selected digital input carries a Dolby Digital or DTS signal, the AVP700 detects it automatically and processes the signal accordingly.

For an analogue input or when no Dolby Digital or DTS signal is detected, pressing the **MODE** button cycles through the available surround sound modes; for Dolby Digital or DTS signals, the mode button cycles through the processing modes available for these types of signal. All of the available modes are detailed later in this handbook, starting on page 26.

The selected mode is displayed in the main section of the display for three seconds, before reverting to show the current volume. The surround mode continues to be shown on the display.

## Treble/Bass

These allow you to alter temporarily the bass and treble controls for all currently active speakers. In the case of Stereo, this would only apply to the front left and right speakers. In Effects, Pro Logic IIX Music, Dolby Digital and DTS modes (for example), this would apply to all present speakers.

You can adjust the bass and treble by up to  $\pm 6$ dB. These adjustments are in addition to those made in 'Speaker Eq' in the Set-up Menu. However, the maximum overall tone control range for each speaker using this screen plus the settings in 'Speaker Eq' is still  $\pm 6$ dB (not  $\pm 12$ dB).

To select the speaker to be adjusted, press the Treble/Bass button repeatedly until the desired speaker is shown on the front-panel display. Then use the volume control knob to adjust the setting up or down.

Note that bass and treble alterations are not available in Stereo mode when **AUTO STEREO TONE BYPASS** is set to **YES**, or in Stereo Direct mode.

## Remote control buttons

In addition to the buttons detailed above, the following remote control buttons are also relevant.

### SUB

This button on the remote allows adjustment of the Sub woofer volume. Press **SUB**, then adjust using the  and  buttons on the navigation pad.

### INFO

This button has the same effect as the RDS button on the front panel. See below for details of its operation.

### SYN

Delays may be introduced into the video signal by external video processing equipment which causes a mismatch between the audio and video timing. You will notice this by speech sound being out of synchronisation with the lip movements in the video.

To compensate for this you can adjust the lip sync audio delay. Press **SYN** and use the  and  navigation buttons to change the delay.

See page 22 for a full explanation of this feature.

### TRM

This allows temporary adjustment of the speaker levels. Press **TRM** to access the OSD 'Speaker Trims' menu, using the navigation buttons to adjust the levels required. Press again to exit the trim function.

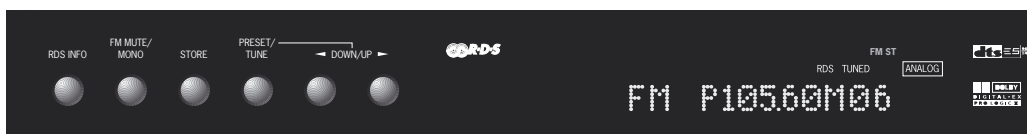
## Using the tuner

The AVP700's radio tuner can be controlled from the upper row of front panel buttons (see diagram, below) or from the remote control handset. Note that the tuner behaviour can be seen only via the front-panel display, as there is no on-screen display for the tuner.

---

### Tuning to a station

Pressing the **PRESET/TUNE** button (or **TM** on the remote) toggles between the two tuning modes of the unit – 'Tune' or 'Preset'. The selected mode is shown briefly on the display. When in frequency display mode, the frequency will be followed by a 'T' in tune mode, and 'P' in preset mode.



#### TUNE MODE

In Tune mode:

- Press the ◀ and ▶ buttons on the front panel (or **P-** or **P+** on the remote control handset) for longer than two seconds to engage automatic tuning. The tuner searches for a radio station signal of sufficient strength and stops. To skip to the next station, press one of the buttons again. Automatic tuning is available for both the FM and AM bands.
- Tapping the ◀ and ▶ buttons engages manual tuning. This can be used for tuning to a specific frequency. It is also useful if you are trying to select a station that is too weak for the auto-search mode.

Regardless of the mode used to tune your AVP700, when it is accurately tuned to a station 'TUNED' lights up in the display.

#### PRESET MODE

When one or more presets have been defined, 'Preset' mode can be used. In Preset mode, use the ◀ and ▶ buttons on the front panel (or **P-** or **P+** on the remote control handset) to cycle up and down the preset stations.

See below for instructions on storing and deleting presets.

---

### Storing a preset

To store a preset, tune to the radio station you wish to store. Press the **STORE** button (or **DYN** on the remote control): the station frequency is shown on the display, followed by a preset number. Select the preset number you wish to assign to the station using the ◀ and ▶ buttons on the front panel (or **P-** or **P+** on the remote control handset), then press the **STORE** button again.

Once the preset is stored, the display reverts to show the station name (if RDS information is transmitted) or its frequency.

To quit the memory function without storing a preset, leave the tuner controls untouched for five seconds. It is also possible to overwrite a stored station by saving another in its place. There are thirty presets available for FM use and ten for AM use.

#### Deleting a preset

Press the **STORE** button, then select the preset number you want to delete using the ◀ and ▶ buttons (or **P-** or **P+** on the remote control handset), followed by the **FM MUTE/MONO** button (**1/STATUS** on the remote control).

The display briefly shows 'DELETE' and '–' is shown in place of the preset number. You can reactivate a deleted preset number by storing a station in the normal way.

---

### RDS: Radio Data System

The Arcam AVP700 supports RDS Programme Service and RDS Radio Text on FM broadcasts.

When a station carrying RDS information is selected 'RDS' lights up in the display and shortly afterwards the station's RDS name (e.g. 'BBC R3') is shown.

Press the **RDS INFO** button to view any RDS text information (if a station is not transmitting text information, the display briefly indicates 'NO TEXT' and reverts to show the station name).

Press **RDS INFO** again to display the station's frequency.

Pressing **RDS INFO** a third time returns you to a display of the station name.

If the **RDS INFO** button is pressed while tuned to a non RDS station, the display shows 'NO NAME' for three seconds before reverting to the default display.

---

### FM Mute/Mono

The AVP700's tuner has an auto-muting circuit that, when engaged, mutes any signal that is of insufficient strength for listening. To engage this circuit press the **FM MUTE/MONO** button on the front panel: 'FM MUTE' is shown in the display. If a signal is muted you will hear no sound through the loudspeakers.

Should you wish to listen to a station that is 'auto muted' press the **FM MUTE/MONO** button again to disengage the muting circuit. The tuner now switches to monoaural reception, cancelling much of the background hiss. 'FM MUTE' is no longer displayed and you are able to continue listening.

## Listening to the tuner in Zone 2

The tuner can be selected, as other inputs, for routing to Zone 2. Note, though, that it is not possible to listen to different stations in the main zone and Zone 2 simultaneously. This is because the AVP700 is fitted with just a single tuner module.

## Using the Main Menu

Three 'Main Menu' screens allow day-to-day changes to be made to the way the AVP700 operates. Examples include adjusting the tone control for a particular input, or selection of 'direct' mode.

The three Main Menu screens are available on your display device. The selected line of each screen is also displayed on the front panel of the AVP700. Each of the following sections has a picture showing the screen that is displayed as you move through the menus.

### Using the remote control to enter the Main Menu

Briefly press the **MENU** button to enter 'Main Menu Screen 1'. Use the navigation  and  buttons to go up and down the menu respectively. The  and  buttons are used to alter the selection on the highlighted line, or to change to the next screen if the menu heading is highlighted.

### Using the front panel to enter the Main Menu

Press the **MENU** button to enter the main menu. To cycle through the items on a menu, use the **EFFECT/▼** button to go down and **MODE/▲** button to go up one line for each press. Use the volume control knob for the  and  functions in order to cycle through the available choices, or to change the menu page if the menu heading is highlighted.

## Main Menu Screen 1

**Vol:** Shows the present volume being used for the main zone and can be adjusted from here.

**Audio Input:** This shows the current audio input source selected. The current audio input can be changed when this line is highlighted using the source select buttons on the front panel or the remote. Note that changing the audio input also changes the video input to the same setting.

**Video Input:** This shows the current video input source selected. The current video input can be changed when this line is highlighted using the source select buttons on the front panel or the remote.

Changing the video input does not change the audio input, so you can watch a different input from the one you are listening to.

If the audio and video are set to different inputs, they will be reset to be the same input when the audio input is next changed.

Note: the composite/S-video inputs and the high-quality video inputs are independent of each other. If you are watching a video source by using the one of the high-quality video inputs, it is not possible to change the video input independently of the audio.

**Video Type:** This setting is applicable only to TVs being fed via a SCART lead where the trigger outputs  and  are connected via suitable SCART header. It shows the video aspect ratio currently selected for the display, which can be set manually to 4:3 or 16:9, depending on which format you are feeding into your TV. See page 12 for further details on using these triggers.

### Stereo Direct:

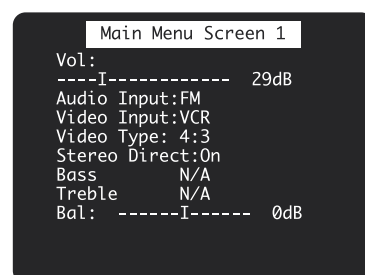
- **OFF:** the AVP700 functions in its normal way.
- **ON:** the AVP700 uses the analogue input signal for the source, bypassing the digital circuitry. In this mode, the AVP700 functions like an analogue amplifier: it also shuts down all the unused digital circuitry for optimum stereo performance. Note that no digital output is available in this case.

**Bass and Treble:** These allow you to alter temporarily the bass and treble controls for all currently active speakers. In the case of Stereo, this would only apply to the front left and right speakers. In Effects, Pro Logic IIx Music, Dolby Digital and DTS modes (for example), this would apply to all present speakers.

You can adjust the bass and treble by up to  $\pm 6$ dB. These adjustments are in addition to those made in 'Speaker Eq' in the Set-up Menu. However, the maximum overall tone control range for each speaker using this screen plus the settings in 'Speaker Eq' is still  $\pm 6$ dB (not  $\pm 12$ dB).

Note that bass and treble alterations are not available in Stereo mode when **AUTO STEREO TONE BYPASS** is set to **YES**, or in Stereo Direct mode.

**Balance:** To alter temporarily the sound balance between the front left and right speakers. You can alter the sound stage to either the left or right by up to 10dB. Note that it is not possible to shift the audio signal completely over to one channel.



## Main Menu Screen 2

**Compression:** Allows selection of three different compression ratios (**OFF**, **MEDIUM** and **HIGH**), where the higher compression is intended for 'late night' listening. The compression effect increases the volume of the quiet passages and decreases the volume of the louder passages. Compression can be disabled by setting this item to **OFF**.

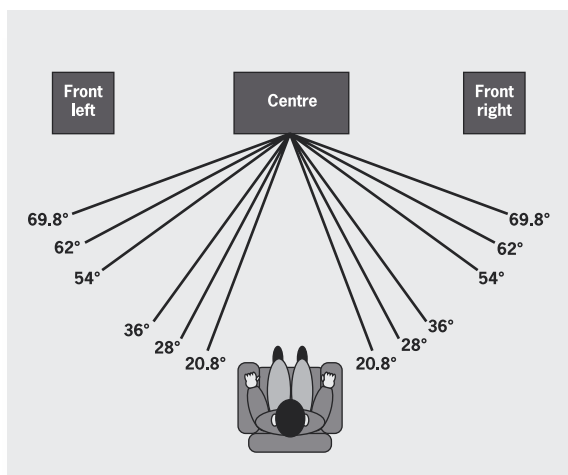
Compression is only available on Dolby Digital recordings and on some DTS recordings.

**Lip Sync:** Allows the introduction and adjustment of a time delay between the audio and video signals to compensate for the sound and picture not being synchronised. This may be required when extra video processing is used in the system, for line doubling or progressive scan video, or for when a DVD has been poorly mastered or a broadcast shows noticeable delay between the video and audio.

The lip sync function works on all sources, unless Stereo Direct is selected. Lip sync is also directly available on the SYN button on the remote control.

The range of lip sync delay is 0 to 220 milliseconds. The lip sync adjustment can only correct for delayed video: if the audio is delayed, set lip sync to its minimum.

**Pro Logic IIX Music Mode:** This allows the adjustment of the sound field for Dolby Pro Logic II/X Music decoding of two-channel sources.



■ **Dimension:** allows the user gradually to adjust the soundfield either towards the front or towards the rear. If a recording is too spacious or strong from the surrounds, it can be adjusted 'forward' to get a better balance. Likewise, if a stereo recording is somewhat too 'narrow' sounding, it can be adjusted toward the rear to get a more enveloping, immersive result. We recommend 'Dimension' is set to 3 for normal use.

■ **Centre Width:** With Pro Logic decoding, dominant centre signals come only from the centre speaker. If no centre speaker is present, the decoder splits the centre signal equally to the left and right speakers to create a 'phantom' centre image. The Centre Width control allows variable adjustment of the centre image so it may be heard only from the centre speaker; only from the left/right speakers as a phantom image; or from all three front speakers to varying degrees. We recommend 'Centre Width' is set to 3 for normal use.

■ **Panorama Mode:** Extends the front centre image to include the surround speakers for an exciting 'wrap-around' effect with side wall imaging.

### Main Menu Screen 2

Compression: Off  
Lip Sync.: +00ms

Pro LogicII Music Mode:  
Dimension: -3  
Centre Width: 0  
Panorama: 0

| Display | Centre spreading effect |
|---------|-------------------------|
| 0       | No centre spreading     |
| 1       | 20.8°                   |
| 2       | 28°                     |
| 3       | 36°                     |
| 4       | 54°                     |
| 5       | 62°                     |
| 6       | 69.8°                   |
| 7       | Phantom centre          |

The 'Centre Width' setting for Dolby Pro Logic IIX Music Mode

## Main Menu Screen 3

This page refers to Zone 2 functions. These are required if your system is installed to send audio and video to a separate 'Zone 2' room, or you wish to make use of the Zone 2 headphone facility.

**Vol:** Shows present volume being used in Zone 2 and can be adjusted from here. This is also the volume control for the headphones output if it is assigned to Zone 2.

**Zone 2 Source:** Selects which source is sent to Zone 2. The source can be selected specifically, or can be set to Follow Zone 1. Note that pressing the **THX** button in Zone 2 will cause the input for Zone 2 to be set to 'Follow zone 1'.

### Main Menu Screen 3

Zone 2 Vol:  
-----I----- 50dB

Zone 2 Source:  
DVD

# Surround modes

## Introduction

Your AVP700 processor provides all the key decoding and processing modes for analogue and digital signals.

### Modes for Digital sources

Digital recordings are usually encoded to include information about their format type. The AVP700 detects automatically the relevant format in a digital signal, such as Dolby Digital or DTS, and switches in the appropriate decoding.

### Modes For Analogue sources

Analogue recordings do not contain information about their encoding formats, so the desired decoding mode – such as Dolby Pro Logic – needs to be selected manually.

### Mode Memory

The AVP700 has a comprehensive memory that allows it to store different settings for each source button. The text below applies to all inputs except 'DVD-A'.

Dolby Digital or DTS audio data (sometimes collectively referred to as 'bitstream' sources) can be output in three mix modes, selected using the **MODE** button:

- Surround (e.g., five main channels plus a sub woofer for a 5.1 source)
- Stereo Downmix
- Mono Downmix

The AVP700 will remember which mix mode was last used with a bitstream source. See 'Multi-channel Source Modes' for more information.

Two-channel audio, regardless of whether it is analogue or digital also can be output in three mix modes, selected using the **MODE** button:

- Surround (e.g., Dolby Pro Logic IIX Movie, Neo:6 Music, etc.)
- Stereo (with effects applied for analogue or digital PCM)
- Mono

The AVP700 will remember which mix mode was last used with a two-channel source and, if 'Surround', which particular surround mode. See 'Two Channel Source Modes' for more information. If an effect mode has been applied whilst in Stereo, this will also be remembered.

There is a link between the mix modes for multi-channel bitstream (e.g., 5.1) and two-channel bitstream (2.0 or 2.1) sources. If a 5.1 source is played in Surround mix mode, the AVP700 will remember this for all bitstream sources (e.g., DTS-ES Matrix, Dolby Digital 3.0 etc.) and use the maximum number of speakers the signal is encoded for. As a result, when a 2.0 or 2.1 bitstream is played the Surround mix mode is recalled and the AVP700 enters Dolby Pro Logic IIX Movie mode to try to recreate the surround environment from what may be a Pro Logic encoded source. If you would rather listen to a 2.0 or 2.1 bitstream in ordinary stereo (with or without a sub woofer), press **MODE** to cycle through to the Stereo mix mode (e.g., Dolby Digital 2/0.0 on the display). However, if the source becomes multi-channel bitstream (e.g., 5.1) again, the AVP700 will recall Stereo mix mode and therefore output a Stereo Downmix of the multi-channel signal. Full surround output can be re-achieved by pressing **MODE** to cycle through to the surround mode encoded on the disc.

## Digital multi-channel sources

Digital multi-channel source material is normally provided as '5.1 audio'. The '5.1 channels' comprise of: left, centre and right front speakers, two surround speakers and a low frequency effects (LFE) channel. Since the LFE channel is not a full range channel, it is referred to as '.1'.

Surround systems decode and reproduce the 5.1 channels directly. Dolby Digital EX and DTS-ES enhanced decoding systems create one extra rear channel from information buried in the two surround signals of the 5.1 source. These EX and ES enhanced systems are sometimes referred to as '6.1' systems. This extra surround back channel is normally reproduced through two separate loudspeakers, creating a '7.1 system'.

### 5.1 Playback on 7.1 speaker systems

When listening to 5.1 channel digital recordings, such as Dolby Digital and DTS on a 7.1 channel speaker system you will have two speakers producing no sound. These two surround back speakers can be assigned the same signal as the surround speakers in the 'Speaker Sizes' page of the Set-up Menu. When both the surround and surround back speakers are selected the volume from both will be reduced by 3 dB to keep the sound levels in balance.

## Two-channel source modes

The following decoding and surround modes are available:

- |                          |                       |
|--------------------------|-----------------------|
| ■ Mono                   | ■ Pro Logic Emulation |
| ■ Stereo                 | ■ Neo:6 Cinema        |
| ■ Pro Logic II/IIX Movie | ■ Neo:6 Music         |
| ■ Pro Logic II/IIX Music |                       |

These modes are available with two-channel analogue and two-channel PCM digital sources (although a Dolby Digital 2.0 source may only be decoded as Mono, Stereo or Pro Logic IIX Movie).

**Mono:** The AVP700 will combine the left and right audio channels from a stereo signal to produce a mono signal. This can be of benefit when playing older audio recordings or VCR tapes, especially mono LP records.

**Analogue Stereo:** In this mode the AVP700 works as a conventional high quality audio amplifier. Note that if the sub woofer is enabled in stereo mode, then some processing of the signal will be carried out. For ultimate sound quality with analogue sources, therefore, select the Stereo Direct function.

**Digital Stereo:** Decodes two-channel digital signals such as PCM signals from sources such as CDs and some DVDs.

**Dolby Pro Logic II/IIX:** Dolby Pro Logic II decoding is designed to produce a 5-channel output from two channel source material. This is extended by Dolby Pro Logic IIX decoding, which is designed to produce a 5- or 7-channel output from two-channel source material and a 7-channel output from 5-channel material.

There are two different modes available in Pro Logic II/IIX: "Movie" and "Music" modes, which are intended for use as their names suggest. Due to the different recording methods used for movies and music, it is recommended that the correct decoding mode for your source material is used to obtain the best results.

- **Movie Mode:** This is intended for use with "cinematic" material, which is mixed and monitored in a calibrated multi-channel environment. Movie mode is a "fixed" mode that is designed to give a similar sound when listening using a home cinema system to that obtained in a cinema.
- **Music Mode:** Stereo music is not designed for surround processing, although good surround effects can be obtained through careful production. As the optimum decoding method varies according to the recording, Music mode allows user adjustment of the processing characteristics. Information about adjusting the Music mode by using 'Dimension' and 'Centre Width' controls can be found in the 'Main Menu Screen 2' section.

**Dolby Pro Logic:** Dolby Pro Logic decoding is a legacy mode that is designed to produce a five-channel output from two-channel source material. It should be used only when the source material is encoded as Dolby Pro Logic; otherwise, we recommend the use of Dolby Pro Logic IIX. This is because Pro Logic processing on straight stereo sources can sound muffled and compressed.

**DTS NEO:6:** DTS Neo:6 provides up to six full-band channels of decoding from stereo material. The AVP700 will derive separate channels corresponding to the standard home theatre speaker layout.

- **Cinema:** A movie mode designed to reproduce a movie theatre environment. Neo:6 technology allows various sound elements within a channel or channels to be steered separately, and in a way which follows the original presentation naturally.
- **Music:** A music mode designed to produce a lively, high-integrity surround-effect from most two-channel music sources from all available speakers. Neo:6 music mode expands stereo recordings into the five- or six-channel layout without diminishing the subtlety and integrity of the original stereo recording.

## Multi-channel source modes

The following modes are available for multi-channel digital sources. Special modes like DTS-ES 6.1 Matrix and DTS-ES 6.1 Discrete are available only from the correct source material.

*For Dolby Digital sources:*

- Dolby Digital 5.1
- Dolby Digital 5.1 Stereo Downmix
- Dolby Digital 5.1 Mono Downmix
- Dolby Digital Ex
- Dolby Digital Pro Logic IIX

*For DTS sources:*

- DTS 5.1
- DTS 5.1 Stereo Downmix
- DTS 5.1 Mono Downmix
- DTS-ES 6.1 Matrix
- DTS-ES 6.1 Discrete

**Dolby Digital 5.1:** The most commonly used sound format for DVD video, and is also the standard for US digital television. Dolby Digital 5.1 sources deliver surround sound with five discrete full-range channels; left, centre, right, surround left, and surround right, plus a low frequency effects (LFE) channel.

**Dolby Digital Ex:** This is an extension to Dolby Digital decoding that provides a 6-channel output from a 5-channel input. The extra channel is the centre-surround channel (for which the two surround back speakers are used), and is derived from the left and right surround channel information. This decode mode should be used only when the source material is "Surround EX" encoded (which is normally indicated on the disc packaging and should be detected automatically by the AVP700), but may be used at other times if desired.

**Dolby Digital Pro Logic IIX:** This is an extension to Dolby Digital decoding that provides a 7-channel output from a 5-channel input. The extra channels are the surround back channels, that are derived from the left and right surround channel information.

**DTS 5.1:** Less common than the Dolby Digital format, but generally recognised within the audio industry as being of superior sound quality. DTS 5.1 delivers surround sound with five full range channels plus an LFE channel.

**DTS-ES 6.1 Matrix:** This is a 6.1 channel format based on DTS 5.1. It has the sixth channel matrix encoded into the surround left and surround right channels. The sixth channel is a surround centre channel and is directed to the surround back left and surround back right speakers.

**DTS-ES 6.1 Discrete:** This is a true discrete 6.1 channel sound format (unlike DTS-ES 6.1 Matrix where the sixth (surround centre) channel information is extracted from the two surround channels). DTS-ES 6.1 Discrete mode operates only on sources with DTS-ES 6.1 Discrete audio encoding, such as certain DVD discs.

A list of available software titles with DTS-ES 6.1 Matrix and DTS-ES 6.1 Discrete titles can be found at [www.dtsonline.com](http://www.dtsonline.com).

## DSP Effects Modes

The AVP700 has a number of effects modes that can be used to enhance a stereo signal and to make use of the surround loudspeakers. DSP effects modes are only available with stereo source signals.

**Music:** Music surround makes full use of the additional speakers placed at the centre, sides and rear of the room. This effect uses ambience extraction for the side and rear speakers and offers the most subtle surround processing with no reverberation or reflections.

**Party:** The Party effect allows unprocessed stereo signals to be played over all speakers for background music or for maximum acoustical output of the system.

**Club:** The Club effect generates reflections and short reverberation information to the front, side and rear speakers. It simulates a small club venue, such as a Jazz Club.

**Concert Hall:** The Concert Hall effect generates the ambient information for the simulation of a medium size hall. Reflections and medium length reverberation information are sent to all channels.

**Sports:** Sports stadium effect is ideal for use when watching live sports events which would normally be in stereo. The open ambience of a sports stadium is actively recreated around you, except from the centre channel which is kept clear for commentary.

**Church:** The Church effect uses a reverberation algorithm which emphasises rich, smooth reverberant decay in large spaces. As its name suggests, it works well for simulating a space with long reverberation time relative to its size, such as a large church or cathedral.

# Speaker positioning

The AVP700 allows you to connect up to seven speakers and an active sub woofer in the main system. The output channels correspond to speakers installed in the front left, centre, front right, surround left, surround right, left surround back, right surround back and an active sub woofer (see diagram).

All speakers, with the exception of the sub woofer, should be arranged around your normal viewing/listening position (see diagram). The sub woofer should be placed in accordance with the instructions of the manufacturer; experiment with it in various positions to obtain the best result.

### Front left and right

Position your front left and right speakers to achieve a good stereo image for normal musical reproduction. If they are placed too close together there will be a lack of spaciousness; if they are placed too far apart a stereo image will appear to have a large 'hole' in the middle and will be presented in two halves. If there is no practical alternative to placing the speakers widely apart, this effect can be overcome in music reproduction by using centre sound extraction from the left and right speakers (see the description of "Dolby Pro Logic IIX Music Mode" later in this handbook).

### Centre

The centre speaker allows for a more realistic reproduction of dialogue and centre sounds. The centre speaker should have a similar tonal balance to the front left and right speakers and be positioned at a similar height.

### Surround left and right

The surround left and right speakers reproduce the ambient sound and effects present in a multi-channel home cinema system and (for home theatre use) should be installed approximately one metre higher than the listener's ears.

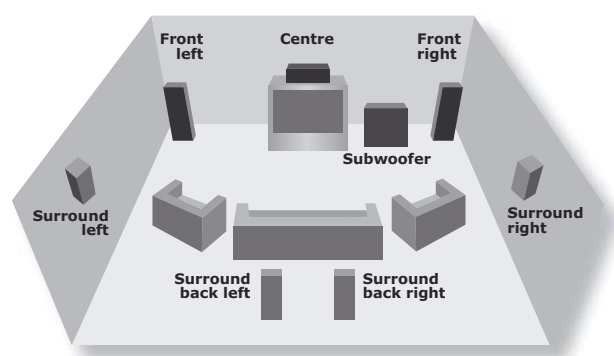
### Surround back left and right

The surround back left and right speakers are used to add extra depth and better sound localisation and should be installed approximately one metre higher than the listener's ears. Place the two surround back speakers such that there is an arc of approximately 150 degrees between each surround back speaker and the centre speaker. The surround back speakers should face the front of the room as shown in the diagram to provide the largest 'sweet spot'.

Note: if you have a 6.1 speaker system, with a single surround back speaker, we recommend that you connect this speaker to the surround back left channel of the AVP700.

### Sub woofer

A sub woofer will greatly improve the bass performance of your system. This is useful for reproducing special cinema effects, especially where a dedicated LFE (Low-Frequency Effects) channel is available, as with many Dolby Digital or DTS encoded discs.



# Troubleshooting

## **There are no lights on the unit.**

- Is the power cord plugged into the AVP700 and is the mains socket it is plugged into switched on?
- Is the power button pressed in?
- Has the mains fuse in the plug (if applicable) blown? The AVP700 requires a 6-amp fuse, or greater.

If a red light is showing next to the power button then the AVP700 is in stand-by mode. Press any source button on the front panel or on the remote control to bring the unit out of stand-by.

## **The unit responds erratically or not at all to the remote control.**

- Is the problem solved by putting fresh batteries in the remote control?
- Check that the remote receiver is 'visible' to the remote control (the receiver is located in the middle of the front-panel display) and that you are pointing the remote control towards it.

## **The front panel display is blank.**

Check that the display hasn't been turned off: press the **DIS** button on the remote control.

## **No picture is produced.**

- Is your display device (TV, projector, etc.) turned on and switched to display your AVP700? Test by pressing the **MENU** button on the AVP700; 'Main Menu Screen 1' should be displayed.
- Is the correct video input selected on the AVP700?
- Is the video source switched on, operating normally, and (if appropriate) in 'play' mode?

## **The video source is different from the audio.**

- Are the video and audio inputs selected correctly in 'Main Menu Screen 1'? Press **MENU**, then change either the video or audio source by using the navigation  and  buttons to select 'Audio Input' or 'Video Input', then using the source buttons to select the correct input.
- Are the digital audio inputs and HQ video inputs assigned correctly to their sources on the 'Digital Settings' page in the Set-up Menu?

## **There are bright edges or 'ghosts' on the picture.**

- Check that the cables used for analogue video connections (not HDMI) are designed to carry video (i.e., they are 75Ω coaxial cables).
- Ensure that the 'Sharpness' control on your video display device is switched off or set near minimum.
- If this problem occurs when using an HDMI connection, try using a shorter cable. In general, HDMI signals cannot be run over such long cables as analogue signals.

## **There is no On-Screen Display (OSD).**

- Is your video display device connected correctly to your AVP700?
- Check that the on-screen display has not been turned off on the 'Video Settings' page in the Set-up Menu.
- If you are using a component display, check that the AVP700 is set for component video. See the 'Basic Set-up' section.

No OSD will be visible on the HDMI output.

## **The OSD is pink/red.**

If a component video signal is fed into the AVP700 when the 'HQ Video' setting is set to **RGB** you will have a pink/red OSD. To correct this you must set the 'HQ Video' line on the General Settings menu to 'Component'.

## **No OSD is overlaid on the video.**

The AVP700 cannot overlay video onto progressive scan or HDTV signals. In this case, the AVP700 creates a full screen display with a black background for the menus and turns off the pop up messages.

## **Unstable OSD.**

The AVP700 defaults to the NTSC video standard for North America and PAL for Europe.

If your display device is unable to display the default video standard, attach a source component that generates the video standard you wish to use; the AVP700 will switch automatically to the supplied video standard when the source is selected.

## **No sound can be heard.**

- Has the correct input has been selected?
- Is the source equipment turned on, operating normally, and (if appropriate) in 'play' mode?
- Is the volume turned up to a reasonable level? Is 'MUTE' displayed on the front panel display?
- Are your power amplifier(s) turned on and working correctly?
- Have you assigned the digital input to the correct source button?
- Is the AVP700 in Stereo Direct mode with only a digital signal supplied?
- If the HDMI connection is in use for video, have you made analogue connections for the audio?

If possible, plug some head-phones into the AVP700. If sound can be heard through these, then the problem is likely to be 'down-stream' of the AVP700 (check your power-amps. and speakers). If no sound can be heard through the headphones, ensure that the source (CD player, cassette deck, etc.) is generating audio and has been selected on the AVP700.

**The sound is poor or distorted.**

- Are the cables to the source and to the power amplifier making a good connection? If necessary withdraw the cable from the connector and plug it back in again (turn the power off before doing this).
- For analogue audio sources, is the input sensitivity on the 'Input Trims' page in the Set-up Menu reduced excessively? Check that the input is not clipping by using the 'Analogue Settings' page.
- Have you selected the correct size of speakers to suit your system? Use the 'Speaker Sizes' page in the Set-up Menu.

**Sound comes only from some of the speakers.**

- Ensure that you have a surround-sound source selected and playing.
- Ensure that the DVD player has been set to put 'Bitstream' or 'Raw' audio out on the digital output.
- Does the display window indicate that the disc you are playing is a multi-channel recording?
- Are all the speakers connected correctly to your power amp., and are the connections secure?
- Have you selected 'Stereo' in the mode selection?
- Is your speaker balance correct?
- Are all amplifiers turned on and all channels are working correctly?
- Have you configured your AVP700 to include all the speakers in your system?

**Unable to select Dolby Digital or DTS decoding modes.**

The AVP700 can apply Dolby Digital or DTS decoding only to sources that have been encoded in those formats.

- Ensure that a digital source is selected and connected.
- Is the source playing appropriately encoded (Dolby Digital or DTS) material?
- Ensure that the DVD player has been set to put 'Bitstream' or 'Raw' audio out on the digital output.

**Hum on an analogue input.**

- Are the cables to the source and to the power amplifier making a good connection? If necessary withdraw the cable from the connector and plug it back in again (turn the power off before doing this).
- Are the connections inside the source cable connector broken or badly soldered?
- If the hum originates only when one particular source component is connected, is an aerial, cable or dish connection to this source ground isolated? Contact your installation contractor.

If the above items fail to fix the problem, try switching the ground lift switch on the back panel.

**There is radio or television reception interference.**

Where is the interference is coming from? Switch off each source component in turn, then any other equipment. When the interference disappears, the problem component has been found.

Try re-arranging cabling from the suspect source away from other cabling and ensure that the cabling used is high quality, specified for its purpose and properly screened.

If the problem persists, please contact your installer or dealer.

**The source switching changes randomly or freezes on one source.**

Check that there are no static or impulse interference problems caused by nearby power equipment switching, e.g., heating or air conditioning control. Switch the AVP700 off, wait ten seconds, then switch it on again to clear an operating problem. Contact your installer if the problem returns or persists.

**A particular input cannot be selected in Zone 2.**

Ensure that you have not blocked that particular input. See the 'Access' line of 'Zone 2 Settings' in the Set-up Menu.

**When Zone 2 is put into stand-by, the main zone is also turned off.**

Check that the 'Zone 2 Stand-by' line of 'Zone 2 Settings' in the Set-up Menu is set to **Local Only**.

**No Zone 2 audio when playing DTS film.**

Many DVD players cannot output a stereo decoded version of a DTS signal – the analogue outputs are muted when playing back DTS films. If you want to watch a DVD in both the Main zone and Zone 2, try using the Dolby Digital sound track.

**No centre image (vocal) in Zone 2 when using the multi-channel input.**

Most DVD/SACD players are unable to provide a two-channel down-mix of source material at the same time as decoding a multi-channel audio stream. Therefore, only the front left and right channels from the multi-channel mix will be available in Zone 2.

To overcome this, play the stereo mix from the DVD-audio disc instead.

**Strange aspect ratio of video in Zone 2.**

Most DVD players can decode video only to one aspect ratio at a time. For example, if you are using wide-screen in the main zone, then wide screen information will also be fed to Zone 2.

To overcome this, either set the film to 4:3 for the main zone when you want to use Zone 2 as well, or change the Zone 2 display to a wide screen capable type.

**Unable to adjust bass and treble controls.**

Bass and treble is not available in 'Direct' mode. For Analogue Stereo and Digital Stereo modes, check that the 'Auto Stereo Tone Bypass' line of 'Speaker Eq' in the Set-up Menu is set to **NO**.

**Digital signal drops out when other electrical appliances turn on (heating, fridge, etc.).**

If a poor quality or incorrect cable has been used for the digital inputs, they can pick up electrical noise. Change the cable to a 75Ω low-loss coaxial type.

Check the connections have not oxidised. Clean the connectors with contact cleaner if they appear oxidised.

# IR Remote Codes

The following information is supplied for owners of advanced programmable remote controls, such as the Philips 'Pronto' and similar devices, where it is possible to program remote codes directly into the device.

The coding system for the AVP700 is based on the Philips RC-5 standard. The main system control uses RC-5 system codes '16', with the tuner section using system code '17' (this is to provide compatability with existing ARCAM tuners). So, for example, to program in a 'Stand-by' command, use the command '16-124'.

Zone 2 also uses RC-5 system code 16 as standard, as Zone 2 is normally operated in a separate room using a standard (system code 16) remote control.

Main system control code, **system code 16**. Items shown in **THIS STYLE** indicate the equivalent remote control button of the supplied CR-80 remote control.

| Command                | Command code |
|------------------------|--------------|
| Stand-by               | 124          |
| On                     | 123          |
| Zone 1 stand-by        | 125          |
| Power toggle           | 12           |
| Display ( <b>DIS</b> ) | 59           |
| Menu ( <b>MENU</b> )   | 82           |
| Info                   | 55           |

|                             |     |
|-----------------------------|-----|
| Mute                        | 119 |
| Un-mute                     | 120 |
| Mute toggle ( <b>MUTE</b> ) | 13  |
| Volume up                   | 16  |
| Volume down                 | 17  |

|                    |   |
|--------------------|---|
| <b>SAT</b> input   | 0 |
| <b>AV</b> input    | 2 |
| <b>TUNER</b> input | 3 |
| <b>DVD</b> input   | 4 |
| <b>TAPE</b> input  | 5 |
| <b>VCR</b> input   | 6 |
| <b>AUX</b> input   | 8 |
| <b>CD</b> input    | 7 |
| <b>DVD-A</b> input | 9 |

|                      |    |
|----------------------|----|
| Stereo Direct on     | 78 |
| Stereo Direct off    | 79 |
| Stereo Direct toggle | 10 |

|           |    |
|-----------|----|
| Up        | 86 |
| Down      | 85 |
| Left      | 81 |
| Right     | 80 |
| <b>OK</b> | 87 |

|                        |    |
|------------------------|----|
| Zone 2 on from Zone 1  | 47 |
| Zone 2 off from Zone 1 | 48 |

| Command            | Command code |
|--------------------|--------------|
| <b>MODE</b>        | 32           |
| Mono mode          | 106          |
| Stereo mode        | 107          |
| Dolby PLII Movie   | 108          |
| Dolby PLII Music   | 109          |
| (Reserved)         | 102          |
| Dolby PL Emulation | 110          |
| DTS Neo:6 Cinema   | 111          |
| DTS Neo:6 Music    | 112          |
| Dolby PLIIx Movie  | 103          |
| Dolby PLIIx Music  | 104          |
| (Reserved)         | 105          |

|                      |    |
|----------------------|----|
| Effect ( <b>FX</b> ) | 70 |
| Effect off           | 63 |
| Effect: Music        | 64 |
| Effect: Party        | 65 |
| Effect: Club         | 66 |
| Effect: Hall         | 67 |
| Effect: Sport        | 68 |
| Effect: Church       | 69 |

|                              |    |
|------------------------------|----|
| Trim menu ( <b>TRM</b> )     | 37 |
| Sub trim menu ( <b>SUB</b> ) | 51 |
| Lip sync. ( <b>SYN</b> )     | 50 |
| Setup menu ( <b>SETUP</b> )  | 84 |

|                 |     |
|-----------------|-----|
| Satellite video | 19  |
| AV video        | 20  |
| DVD video       | 22  |
| Tape video      | 23  |
| VCR video       | 24  |
| Video standard  | 126 |

|                                |    |
|--------------------------------|----|
| Preset/Tune down ( <b>P-</b> ) | 57 |
| Preset/Tune up ( <b>P+</b> )   | 56 |
| Preset/Tune mode toggle        | 54 |

These extra commands on code 17 allow full control of the tuner in the AVP700 using the remote control supplied with the T61/T31. The AVP700 responds to these commands in both the main zone and Zone 2.

#### System code 17.

| Command                                        | Command code |
|------------------------------------------------|--------------|
| Tune down (seek down if pressed for >1 second) | 31           |
| Tune up (seek up if pressed for >1 second)     | 30           |
| Seek down                                      | 35           |
| Seek up                                        | 34           |
| Preset/Tune up                                 | 32           |
| Preset/Tune down                               | 33           |
| Preset/Tune mode toggle                        | 37           |
| Preset store                                   | 41           |

|               |    |
|---------------|----|
| RDS programme | 62 |
| RDS text      | 63 |
| RDS frequency | 64 |

|        |    |
|--------|----|
| Mono   | 54 |
| Stereo | 39 |

|                                                |   |
|------------------------------------------------|---|
| Preset 1 (preset 9 if pressed for > 1 second)  | 1 |
| Preset 2 (preset 10 if pressed for > 1 second) | 2 |
| Preset 3 (preset 11 if pressed for > 1 second) | 3 |
| Preset 4 (preset 12 if pressed for > 1 second) | 4 |
| Preset 5 (preset 13 if pressed for > 1 second) | 5 |

| Command                                        | Command code |
|------------------------------------------------|--------------|
| Preset 6 (preset 14 if pressed for > 1 second) | 6            |
| Preset 7 (preset 15 if pressed for > 1 second) | 7            |
| Preset 8 (preset 16 if pressed for > 1 second) | 8            |
| Preset 9                                       | 9            |
| Preset 10                                      | 110          |
| Preset 11                                      | 111          |
| Preset 12                                      | 112          |
| Preset 13                                      | 113          |
| Preset 14                                      | 114          |
| Preset 15                                      | 115          |
| Preset 16                                      | 116          |
| Preset 17                                      | 117          |
| Preset 18                                      | 88           |
| Preset 19                                      | 89           |
| Preset 20                                      | 90           |
| Preset 21                                      | 91           |
| Preset 22                                      | 92           |
| Preset 23                                      | 93           |
| Preset 24                                      | 94           |
| Preset 25                                      | 95           |
| Preset 26                                      | 96           |
| Preset 27                                      | 97           |
| Preset 28                                      | 98           |
| Preset 29                                      | 99           |
| Preset 30                                      | 100          |

In addition to the system '17' commands shown above, Zone 2 also responds to the following commands.

#### System code 16.

| Command      | Command code |
|--------------|--------------|
| Stand-by     | 124          |
| On           | 123          |
| Power toggle | 12           |

|                             |     |
|-----------------------------|-----|
| Mute                        | 119 |
| Un-mute                     | 120 |
| Mute toggle ( <b>MUTE</b> ) | 13  |
| Volume up                   | 16  |
| Volume down                 | 17  |

|                         |    |
|-------------------------|----|
| Preset/Tune down        | 57 |
| Preset/Tune up          | 56 |
| Preset/Tune mode toggle | 54 |

| Command            | Command code |
|--------------------|--------------|
| <b>SAT</b> input   | 0            |
| <b>AV</b> input    | 2            |
| <b>TUNER</b> input | 3            |
| <b>DVD</b> input   | 4            |
| <b>TAPE</b> input  | 5            |
| <b>VCR</b> input   | 6            |
| <b>AUX</b> input   | 8            |
| <b>CD</b> input    | 7            |
| <b>DVD-A</b> input | 9            |

# SCART connections

These pinouts describe the signal connections between the AVP700 and your display device input.

## SCART RGB cable with audio back to processor

| Pin | Signal                                         | Connector type         | Connector Pin | Cable Type              | Label              |
|-----|------------------------------------------------|------------------------|---------------|-------------------------|--------------------|
| 1   | Audio output B (right) from TV Tuner           | RCA Phono (1)          | Centre        | Coaxial cable (1)       | Audio out R        |
| 2   | Audio input B (right)                          | Not connected          |               |                         |                    |
| 3   | Audio output A (left) from TV Tuner            | RCA Phono (2)          | Centre        | Coaxial cable (2)       | Audio out L        |
| 4   | Ground (audio)                                 | RCA Phono (1 and 2)    | Sleeve        | Coaxial cable (1 and 2) |                    |
| 5   | Ground (blue)                                  | RCA Phono (3)          | Sleeve        | Coaxial cable (3)       |                    |
| 6   | Audio input A (left)                           | Not connected          |               |                         |                    |
| 7   | Blue input                                     | RCA Phono (3)          | Centre        | Coaxial cable (3)       | Blue               |
| 8   | RGB/composite SCART input select (CVBS status) | Stereo Mini Jack 3.5mm | Ring          | Screened twin cable     | Trigger RGB        |
| 9   | Ground (green)                                 | RCA Phono (4)          | Sleeve        | Coaxial cable (4)       |                    |
| 10  | Comms data 2                                   | Not connected          |               |                         |                    |
| 11  | Green input                                    | RCA Phono (4)          | Centre        | Coaxial cable (4)       | Green              |
| 12  | Comms data 1                                   | Not connected          |               |                         |                    |
| 13  | Ground (red)                                   | RCA Phono (5)          | Sleeve        | Coaxial cable (5)       |                    |
| 14  | Ground (comms)                                 | Not connected          |               |                         |                    |
| 15  | Red input                                      | RCA Phono (5)          | Centre        | Coaxial cable (5)       | Red                |
| 16  | RGB mode select                                | Stereo Mini Jack 3.5mm | Tip           | Screened twin cable     |                    |
| 17  | Ground (video input & output)                  | RCA Phono (6 and 7)    | Sleeve        | Coaxial cable (6 and 7) |                    |
| 18  | Ground (RGB switching control)                 | Stereo Mini Jack 3.5mm | Sleeve        | Screened cable          |                    |
| 19  | Video output (composite)                       | RCA Phono (6)          | Centre        | Coaxial cable (6)       | Comp out           |
| 20  | Video input (composite)                        | RCA Phono (7)          | Centre        | Coaxial cable (7)       | RGB sync (Comp in) |
| 21  | Common ground (shield)                         | SCART                  | Sleeve        | Overall Cable Screen    |                    |

## SCART S-video cable with audio back to processor

| Pin | Signal                               | Connector Type         | Connector Pin | Cable Type               | Label           |
|-----|--------------------------------------|------------------------|---------------|--------------------------|-----------------|
| 1   | Audio output B (right) from TV Tuner | RCA Phono (1)          | Centre        | Coaxial cable (1)        | Audio out R     |
| 2   |                                      | Not connected          |               |                          |                 |
| 3   | Audio output A (left) from TV Tuner  | RCA Phono (2)          | Centre        | Coaxial cable (2)        | Audio out L     |
| 4   | Ground (audio)                       | RCA Phono (1 and 2)    | Screen        | Coaxial cable (1 and 2)  |                 |
| 5   |                                      | Not connected          |               |                          |                 |
| 6   |                                      | Not connected          |               |                          |                 |
| 7   |                                      | Not connected          |               |                          |                 |
| 8   | CVBS (AV control)                    | Stereo Mini Jack 3.5mm | Ring          | Screened cable           | Trigger S-video |
| 9   |                                      | Not connected          |               |                          |                 |
| 10  |                                      | Not connected          |               |                          |                 |
| 11  |                                      | Not connected          |               |                          |                 |
| 12  |                                      | Not connected          |               |                          |                 |
| 13  | Ground (chroma)                      | S-video Mini DIN       | Pin 2         | Coaxial cable (3) screen | S-video         |
| 14  |                                      | Not connected          |               |                          |                 |
| 15  | Chroma input                         | S-video Mini DIN       | Pin 4         | Coaxial cable (3) centre | S-video         |
| 16  |                                      | Not connected          |               |                          |                 |
| 17  | Ground (video input & output)        | S-video Mini DIN       | Pin 1         | Coaxial cable (4) screen | S-video         |
| 18  | Ground (S-video SCART input select)  | Stereo Mini Jack 3.5mm | Sleeve        | Screened twin cable      |                 |
| 19  |                                      | Not connected          |               |                          |                 |
| 20  | Video input (luma)                   | S-video Mini DIN       | Pin 3         | Coaxial cable (4) centre | S-video         |
| 21  | Common ground (shield)               | SCART                  |               | Overall Cable Screen     |                 |

# Technical specifications

|                                                                     |                                                   |
|---------------------------------------------------------------------|---------------------------------------------------|
| <b>Analogue audio inputs</b>                                        |                                                   |
| Line input sensitivity                                              | 0.5/1/2/4V rms (2V rms normal)                    |
| Overload margin                                                     | +2dB                                              |
| Input impedance                                                     | >22kΩ                                             |
| <b>Analogue audio outputs</b>                                       |                                                   |
| Level (at 0dB gain)                                                 | 2V rms                                            |
| Maximum level                                                       | 3.5V rms                                          |
| Impedance                                                           | 600Ω                                              |
| Signal/Noise ratio (analogue input)                                 | 100dB unweighted (measurement bandwidth 22kHz)    |
| Signal/Noise ratio (digital input)                                  | 100dB unweighted (measurement bandwidth 22kHz)    |
| THD+N (analogue input)                                              | 90dB (0.003%) (measurement bandwidth 22kHz)       |
| THD+N (digital input)                                               | 90dB (0.003%) (measurement bandwidth 22kHz)       |
| Frequency response                                                  | 20Hz–20kHz (±0.25dB)                              |
| Headphone impedance                                                 | 390Ω                                              |
| <b>Video inputs and outputs</b>                                     |                                                   |
| Input and output impedance                                          | 75Ω                                               |
| Composite video level                                               | 1V                                                |
| HF response to (-3dB)                                               | 12MHz                                             |
| S-video level (Y/C)                                                 | 1V/0.28V                                          |
| HF response to (-3dB)                                               | 12MHz                                             |
| HQ (component) video                                                |                                                   |
| level (Y/Cr/Cb)                                                     | 1V/0.5V/0.5V                                      |
| level (R/G/B)                                                       | 1V/1V/1V                                          |
| HF response to (-3dB)                                               | 150MHz                                            |
| <b>Digital audio inputs</b>                                         |                                                   |
| Coaxial connection (level/impedance)                                | 0.5V/75Ω                                          |
| Acceptable sampling frequencies                                     | 44.1kHz, 48kHz and 96kHz                          |
| Digital output level/impedance                                      | 0.5V/75Ω                                          |
| <b>Trigger outputs</b>                                              |                                                   |
| Output D.C. voltage level (excl. RGB status)                        | 12V ±1V                                           |
| Allowable load                                                      | 30mA max. (min. 400Ω)                             |
| <b>Remote inputs and output</b>                                     |                                                   |
| Signal                                                              | modulated 36kHz carrier                           |
| Coding                                                              | Philips RC-5                                      |
| <b>General</b>                                                      |                                                   |
| Mains voltage                                                       | 110V and 230V (switchable)                        |
| Power consumption (maximum)                                         | 120VA                                             |
| Dimensions W x D x H (including feet)                               | 430 x 420 x 145mm                                 |
| Weight (net)                                                        | 8.3kg                                             |
| Weight (packed)                                                     | 13.5kg                                            |
| Supplied accessories                                                | Mains lead, CR80 remote control, 2 x AA batteries |
| E&OE. All specification values are typical unless otherwise stated. |                                                   |

## Continual improvement policy

Arcam has a policy of continual improvement for its products. This means that designs and specifications are subject to change without notice.

## Radio interference

The AVP700 is a digital audio device which have been designed to very high standards of electromagnetic compatibility.

The unit can radiate RF (radio frequency) energy. In some cases this can cause interference with FM and AM radio reception. If this is the case, keep the AVP700 player and its connecting cables as far from the tuner and its aerials as possible. Connecting the AVP700 and the tuner to different mains sockets can also help to reduce interference.

EU COUNTRIES – These products have been designed to comply with directive 89/336/EEC.

USA – These products comply with FCC requirements.

# Guarantee

## Worldwide Guarantee

This entitles you to have the unit repaired free of charge, during the first two years after purchase, at any authorised Arcam distributor provided that it was originally purchased from an authorised Arcam dealer or distributor. The manufacturer can take no responsibility for defects arising from accident, misuse, abuse, wear and tear, neglect or through unauthorised adjustment and/or repair, neither can they accept responsibility for damage or loss occurring during transit to or from the person claiming under the guarantee.

### The warranty covers:

Parts and labour costs for two years from the purchase date. After two years you must pay for both parts and labour costs. **The warranty does not cover transportation costs at any time.**

### Claims under guarantee

This equipment should be packed in the original packing and returned to the dealer from whom it was purchased, or failing this, directly to the Arcam distributor in the country of residence. It should be sent "carriage prepaid" by a reputable carrier — **not** by post. No responsibility can be accepted for the unit whilst in transit to the dealer or distributor and customers are therefore advised to insure the unit against loss or damage whilst in transit.

For further details contact Arcam at:

Arcam Customer Support Department,  
Pembroke Avenue,  
Waterbeach,  
CAMBRIDGE, CB5 9QR,  
England

If you have a problem, always contact your dealer in the first instance. If your dealer is unable to answer any query regarding this or any other Arcam product please contact Arcam Customer Support and we will do our best to help you.

## On line registration

You can register your Arcam product on line at: **[www.arcam.co.uk](http://www.arcam.co.uk)**

# Appendix: Serial programming interface

## Introduction

This section describes the remote control protocol for controlling the AVP700 via the RS232 interface.

### Conventions

- All values in this section are hexadecimal values, unless otherwise specified.

### Data transfer format

- Transfer rate: 38,400bps.
- 1 start bit, 8 data bits, 1 stop bit, no parity, no flow control.

## Command and response formats

Communication between the remote controller (RC) and the AVP700 takes the form of sequences of ASCII characters, with all commands and responses having the same basic format. The AVP700 shall always respond to a received command, but may also send messages at other times (i.e., full-duplex communication).

Each transmission by the RC is seven bytes long with the following format:

- <STR> <CC> <P1> <P2> <ETR>
- STR (Start transmission): 0x50, 0x43, 0x5F ("PC\_")
  - CC (Command code): the code for the command
  - Px (Parameter code): the parameters for the command
  - ETR (End transmission): 0xd

Each response by the AVP700 is eight bytes long with the following format:

- <STR> <RC> <AC> <P1> <P2> <ETR>
- STR (Start transmission): 0x41, 0x56, 0x5f ("AV\_")
  - RC (Reply code): = command code
  - AC (Answer code): answer code (see below)
  - Px (Parameter code): the parameters for the response
  - ETR (End transmission): 0xd

The AVP700 responds to each command from the RC within three seconds. The RC may send further commands before a previous command response has been received.

---

### Answer codes

The following answer codes are defined:

- **Command OK** – 'P' (0x50): The command has been accepted and processed completely.
- **Command Error** – 'R' (0x52): An error occurred relating to the command received. This may be either an invalid command (at this time), or a command formatting error.

---

### State changes as a result of other inputs

It is possible that the state of the AVP700 may be changed as a result of user input via the front panel buttons or via the IR remote control. Changes resulting from these inputs is relayed to the RC using the appropriate message type.

For example, if the user changed the front panel display brightness using the **DISPLAY** button on the front panel, a display message (defined below) would be sent to the RC. A similar action would be taken for all other state changes (including decode mode changes).

---

### Example command and response sequence

As an example, the command to be sent to bring the main zone out of stand-by (defined below) is as follows:

```
STR CC P1 P2 ETR
PC_ * 1 1 (0xd)
```

Assuming that the command was accepted by the AVP700, the AVP700 shall respond to this command with the following sequence:

```
STR RC AC P1 P2 ETR
AV_ * P 1 1 (0xd)
```

# Command Specifications / Spécifications des commandes / Befehlsspezifikationen / Opdrachtspecificaties

## Power / Alimentation / Betriebsbereitschaft / Stroom

- Ⓔ Change the stand-by state of a zone.
- Ⓕ Modifiez l'état de veille d'une zone.
- Ⓖ Ändern des Stand-by-Zustands einer Zone.
- Ⓝ De standby-status van een zone wijzigen.

### Example / Exemple / Beispiel / Voorbeeld

- Ⓔ Command/response sequence to bring the main zone out of standby:
- Ⓕ Séquence commande/réponse pour désactiver le mode veille de la zone principale :
- Ⓖ Befehls-/Rückmeldesequenz zur Aktivierung der im Stand-by-Modus befindlichen Hauptzone:
- Ⓝ Opdracht- en responsreeks om de hoofdzone uit standby te halen:
  - Com.: **PC\_\*11** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
  - Resp.: **AV\_\*P11** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                           |
|-------|------------------------------------------------------------------------------------------------------------------------|
| CC    | '*' (0x2a) (Command code)                                                                                              |
| P1    | Zone:<br>'1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                                                                    |
| P2    | Request:<br>'0' (0x30) – Enter stand-by state<br>'1' (0x31) – Enter power-on state<br>'9' (0x39) – Request power state |

#### RESPONSE:

| Byte: | Description:                                                             |
|-------|--------------------------------------------------------------------------|
| RC    | '*' (0x2a) (Reply Code)                                                  |
| AC    | Answer code                                                              |
| P1    | Zone:<br>'1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                      |
| P2    | Response:<br>'0' (0x30) – Zone is in stand-by<br>'1' (0x31) – Zone is on |

## Display Brightness / Luminosité de l'affichage / Helligkeit des Displays / Displayhelderheid

- Ⓔ Change the brightness of the display on the front panel of the AVP700.
- Ⓕ Modifiez la luminosité de l'affichage du panneau avant du système AVP700.
- Ⓖ Ändern der Helligkeit des Displays an der Gerätevorderseite des AVP700.
- Ⓝ De helderheid van het display op de voorkant van de AVP700 wijzigen.

### Example / Exemple / Beispiel / Voorbeeld

- Ⓔ Command/response sequence to change the brightness of the display to "off":
- Ⓕ Séquence commande/réponse pour désactiver la luminosité de l'affichage :
- Ⓖ Befehls-/Rückmeldesequenz, mit der der Helligkeitsstatus des Displays auf „aus“ gesetzt wird:
- Ⓝ Opdracht- en responsreeks om de helderheid van het display op 'uit' te zetten:
  - Com.: **PC\_+10** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
  - Resp.: **AV\_+P10** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '+' (0x2b) (Command code)                                                                                                                         |
| P1    | Zone:<br>'1' (0x31) – Zone 1                                                                                                                      |
| P2    | Request:<br>'0' (0x30) – Front panel off<br>'1' (0x31) – Front panel dimmed<br>'2' (0x32) – Front panel bright<br>'9' (0x39) – Request brightness |

#### RESPONSE:

| Byte: | Description:                                                                                                             |
|-------|--------------------------------------------------------------------------------------------------------------------------|
| RC    | '+' (0x2b) (Reply Code)                                                                                                  |
| AC    | Answer code                                                                                                              |
| P1    | '1' (0x31) – Zone 1                                                                                                      |
| P2    | Response:<br>'0' (0x30) – Front panel is off<br>'1' (0x31) – Front panel is dimmed<br>'2' (0x32) – Front panel is bright |

## Open a menu / Ouverture d'un menu / Aufrufen eines Menüs / Een menu openen

- Ⓔ Open one of the menus of the AVP700.
- If the Set-up menu is closed as a result of opening a different menu, any change made in the Set-up menu is lost.
- Ⓕ Ouvrez l'un des menus du système AVP700.
- Si le menu Set-up est fermé en raison de l'ouverture d'un autre menu, toute modification apportée au menu Set-up est perdue.
- Ⓖ Aufrufen eines der Menüs des AVP700.
- Falls das Set-up-Menü aufgrund des Aufrufs eines anderen Menüs geschlossen wird, gehen sämtliche im Set-up-Menü vorgenommenen Änderungen verloren.
- Ⓝ Een van de menu's van de AVP700 openen.
- Als het set-up-menu gesloten wordt omdat er een ander menu geopend wordt, gaan eventuele wijzigingen die in het set-up-menu gemaakt zijn, verloren.

### Example / Exemple / Beispiel / Voorbeeld

- Ⓔ Command/response sequence to open the 'Trim' menu:
- Ⓕ Séquence commande/réponse pour ouvrir le menu Trim :
- Ⓖ Befehls-/Rückmeldesequenz zum Aufrufen des Trim-Menüs:
- Ⓝ Opdracht- en responsreeks om het menu Trim te openen:
  - Com.: **PC\_13** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
  - Resp.: **AV\_P13** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                                                                                                                  |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '/' (0x2c) (Command code)                                                                                                                                                                                                                     |
| P1    | Zone:<br>'1' (0x31) – Zone 1                                                                                                                                                                                                                  |
| P2    | Request:<br>'1' (0x31) – Open the Main Menu<br>'2' (0x32) – Open the Set-up Menu<br>'3' (0x33) – Open the Trim Menu<br>'4' (0x34) – Open the Sub Trim Menu<br>'5' (0x35) – Open the Lip Sync Menu<br>'9' (0x39) – Request the open menu state |

#### RESPONSE:

| Byte: | Description:                                                                                 |
|-------|----------------------------------------------------------------------------------------------|
| RC    | '/' (0x2c) (Reply Code)                                                                      |
| AC    | Answer code                                                                                  |
| P1    | '1' (0x31) – Zone 1                                                                          |
| P2    | Response:<br>'0' (0x30) – No menu is open<br>or: the current open menu is returned, as left. |

## Close a menu / Fermeture d'un menu / Schließen eines Menüs / Een menu sluiten

GB Close one of the menus of the AVP700.

An error message is returned if the close instruction relates to a menu that is not open. For example, if the Main menu is open and a close instruction for the Set-up menu is received, then an error is returned.

F Fermez l'un des menus du système AVP700.

Un message d'erreur s'affiche si l'instruction de fermeture est relative à un menu non ouvert. Par exemple, si le menu Main est ouvert et une instruction de fermeture pour le menu Set-up est reçue, un message d'erreur s'affiche.

D Schließen eines der Menüs des AVP700

Bezieht sich der Befehl zum Schließen auf ein Menü, das nicht aktiv ist, wird eine Fehlermeldung ausgegeben. Wenn beispielsweise das Hauptmenü geöffnet ist und der Befehl zum Schließen des Set-up-Menüs empfangen wird, wird eine Fehler ausgegeben.

NL Een van de menu's van de AVP700 sluiten.

Er wordt een foutmelding geretourneerd als de instructie voor het sluiten betrekking heeft op een menu dat niet open is. Als het hoofdmenu bijvoorbeeld open is en er een instructie voor het sluiten van het set-up-menu wordt ontvangen, wordt er een fout geretourneerd.

### Example / Exemple / Beispiel / Voorbeeld

GB Command/response sequence to close the main menu:

F Séquence commande/réponse pour fermer le menu Main :

D Befehls-/Rückmeldesequenz zum Schließen des Hauptmenüs:

NL Opdracht- en responsreeks om het hoofdmenu te sluiten:

■ Com.: PC\_  11 – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: AV\_  P10 – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                               |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '-' (0x2d) (Command code)                                                                                                                                  |
| P1    | Zone:<br>'1' (0x31) – Zone 1                                                                                                                               |
| P2    | Request:<br>'1' (0x31) – Close the Main Menu<br>'2' (0x32) – Close the Set-up Menu<br>'3' (0x33) – Close the Trim Menu<br>'8' (0x38) – Close any open menu |

#### RESPONSE:

| Byte: | Description:                              |
|-------|-------------------------------------------|
| RC    | '-' (0x2d) (Reply Code)                   |
| AC    | Answer code                               |
| P1    | '1' (0x31) – Zone 1                       |
| P2    | Response:<br>'0' (0x30) – No menu is open |

## Mute / Coupure du son / Stumm / Dempen

GB Mute/unmute the audio output.

F Activez/désactivez le son de la sortie audio.

D Stummschaltung der Audioausgabe aktivieren/deaktivieren.

NL De geluidsuitvoer dempen/dempen opheffen.

### Example / Exemple / Beispiel / Voorbeeld

GB Command/response sequence to mute the main zone:

F Séquence commande/réponse pour couper le son de la zone principale :

D Befehls-/Rückmeldesequenz zum Stummschalten der Hauptzone:

NL Opdracht- en responsreeks om de hoofdzone te dempen:

■ Com.: PC\_  10 – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: AV\_  P10 – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                               |
|-------|------------------------------------------------------------------------------------------------------------|
| CC    | '-' (0x2e) (Command code)                                                                                  |
| P1    | Zone:<br>'1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                                                        |
| P2    | Request:<br>'0' (0x30) – Mute the zone<br>'1' (0x31) – Unmute the zone<br>'9' (0x39) – Request mute status |

#### RESPONSE:

| Byte: | Description:                                                                                                    |
|-------|-----------------------------------------------------------------------------------------------------------------|
| RC    | '-' (0x2e) (Reply Code)                                                                                         |
| AC    | Answer code                                                                                                     |
| P1    | '1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                                                                      |
| P2    | Response:<br>'0' (0x30) – Zone is muted<br>'1' (0x31) – Zone is not muted<br>'2' (0x32) – Front panel is bright |

## Volume change / Modification du volume / Ändern der Lautstärke / Volumewijziging

ⒼⒷ Increment/decrement the audio volume in a zone.

The value returned for the new volume is offset by 0x30. To obtain the correct value, subtract 0x30 from the reported value.

■ Formula: actual volume = (reported volume – 0x30)

For this reason, the command may return values that cannot be translated into ASCII characters (occurs if the resulting volume is greater than 78dB).

ⓕ Augmentez/baissez le volume de l'audio d'une zone.

La valeur retransmise pour le nouveau volume est décalée de 0x30. Pour obtenir la valeur correcte, ôtez 0x30 de la valeur rapportée.

■ Formule : volume réel = (volume rapporté – 0x30)

Pour cette raison, la commande peut retransmettre des valeurs ne pouvant pas être traduites en caractères ASCII (lorsque le volume obtenu est supérieur à 78 dB).

Ⓓ Erhöhen/Verringern der Lautstärke in einer Zone.

Der ausgegebene Wert für die neue Lautstärke ist um 0x30 versetzt. Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten

■ Formel: tatsächliche Lautstärke = (angegebene Lautstärke – 0x30)

Aus diesem Grund kann es vorkommen, dass der Befehl möglicherweise Werte liefert, die sich nicht als ASCII-Zeichen darstellen lassen. Dies geschieht insbesondere, wenn der ausgegebene Lautstärkewert größer als 78 dB ist.

Ⓐ Het geluidsvolume in een zone verhogen/verlagen.

De geretourneerde waarde voor het nieuwe volume wordt met 0x30 verschoven. Wilt u de juiste waarde verkrijgen, dan moet u 0x30 van de gerapporteerde waarde aftrekken.

■ Formule: feitelijk volume = (gerapporteerd volume – 0x30)

De opdracht kan hierdoor waarden retourneren die niet in ASCII-teken omgezet kunnen worden (gebeurt als het resulterende volume groter is dan 78 dB).

### Example / Exemple / Beispiel / Voorbeeld

ⒼⒷ Example command/response sequence to decrement the volume by 1dB in Zone 2, where the resulting volume is 56dB:

ⓕ Séquence commande/réponse pour baisser le volume de la zone 2 de 1 dB, où le volume obtenu est 56 dB :

Ⓓ Befehls-/Rückmeldesequenz zur Verringerung der Lautstärke in Zone 2 um 1 dB auf 56 dB:

Ⓐ Opdracht- en responsreeks om het volume in Zone 2 met 1dB te verlagen, waarbij het resulterende volume 56 dB is:

■ Com.: **PC\_20** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_P2h** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                        |
|-------|-------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '/' (0x2f) (Command code)                                                                                                           |
| P1    | Zone:<br>'1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                                                                                 |
| P2    | Request:<br>'0' (0x30) – Decrement volume by 1dB<br>'1' (0x31) – Increment volume by 1dB<br>'9' (0x39) – Request the current volume |

#### RESPONSE:

| Byte: | Description:                                                     |
|-------|------------------------------------------------------------------|
| RC    | '/' (0x2f) (Reply Code)                                          |
| AC    | Answer code                                                      |
| P1    | '1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                       |
| P2    | Response:<br>0 – 100 (New volume of zone, in dB)<br>+ '0' (0x30) |

## Source selection / Sélection de la source / Quellenauswahl / Bronselectie

ⒼⒷ Changes the audio and video input to a zone.

ⓕ Change l'entrée audio et vidéo d'une zone.

Ⓓ Änderung des Audio- oder Videoeingangs einer Zone.

Ⓐ De audio- en video-ingang naar een zone wijzigen.

### Example / Exemple / Beispiel / Voorbeeld

ⒼⒷ Command/response sequence to change the source for Zone 2 to 'FM':

ⓕ Séquence commande/réponse pour remplacer la source de la Zone 2 par FM :

Ⓓ Befehls-/Rückmeldesequenz zur Änderung der Quelle von Zone 2 auf „FM“:

Ⓐ Voorbeeld opdracht- en responsreeks om de bron voor Zone 2 naar 'FM' te wijzigen:

■ Com.: **PC\_126** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_1P26** – followed by a carriage return (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                                                                                                                                                   |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '1' (0x31) (Command code)                                                                                                                                                                                                                                                      |
| P1    | Zone:<br>'1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                                                                                                                                                                                                                            |
| P2    | Source:<br>'*' (0x2a) – Follow Zone 1<br>'0' (0x30) – DVD<br>'1' (0x31) – SAT<br>'2' (0x32) – AV<br>'3' (0x33) – AUX<br>'4' (0x34) – VCR<br>'5' (0x35) – CD<br>'6' (0x36) – FM<br>'7' (0x37) – AM<br>'8' (0x38) – DVDA<br>';' (0x3a) – TAPE<br>'9' (0x39) – Req. current input |

#### RESPONSE:

| Byte: | Description:                                                     |
|-------|------------------------------------------------------------------|
| RC    | '1' (0x31) (Reply Code)                                          |
| AC    | Answer code                                                      |
| P1    | '1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                       |
| P2    | Response:<br>The current source is returned, as for the command. |

## Volume set / Réglage du volume / Einstellen der Lautstärke / Volume-instelling

ⒼⒷ Set the volume of a zone.

The value transmitted for the new volume must be offset by 0x30.

■ Formula: transmitted volume = (required volume + 0x30)

The value returned for the new volume is offset by 0x30. To obtain the correct value, subtract 0x30 from the reported value.

■ Formula: actual volume = (reported volume – 0x30)

For these reasons, this command may require/return values that cannot be translated into ASCII characters (occurs if the volumes are greater than 78dB).

Ⓕ Réglez le volume d'une zone.

La valeur transmise pour le nouveau volume doit être décalée de 0x30.

■ Formule : volume transmis = (volume requis + 0x30)

La valeur retransmise pour le nouveau volume est décalée de 0x30. Pour obtenir la valeur correcte, ôtez 0x30 de la valeur rapportée.

■ Formule : volume réel = (volume rapporté – 0x30)

C'est pour cela que la commande peut nécessiter/retransmettre des valeurs ne pouvant pas être traduites en caractères ASCII (lorsque les volumes sont supérieurs à 78 dB).

ⒼⒹ Einstellen der Lautstärke einer Zone.

Der übertragene Wert für die neue Lautstärke muss um 0x30 versetzt werden.

■ Formel: übertragene Lautstärke = (gewünschte Lautstärke + 0x30)

Der ausgegebene Wert für die neue Lautstärke ist um 0x30 versetzt. Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten

■ Formel: tatsächliche Lautstärke = (angegebene Lautstärke – 0x30)

Aus diesem Grund kann es vorkommen, dass der Befehl möglicherweise Werte liefert oder benötigt, die sich nicht als ASCII-Zeichen darstellen lassen. Dies ist insbesondere der Fall, wenn der Lautstärkewert größer als 78 dB ist.

ⒼⒿ Het volume van een zone instellen

De overgedragen waarde voor het nieuwe volume moet met 0x30 verschoven worden.

■ Formule: overgedragen volume = (vereist volume + 0x30)

De geretourneerde waarde voor het nieuwe volume wordt met 0x30 verschoven. Wilt u de juiste waarde verkrijgen, dan moet u 0x30 van de gerapporteerde waarde aftrekken.

■ Formule: feitelijk volume = (gerapporteerd volume – 0x30)

De opdracht kan hierdoor waarden vereisen/retourneren die niet in ASCII-tekens omgezet kunnen worden (gebeurt als de volumes groter zijn dan 78 dB).

### Example / Exemple / Beispiel / Voorbeeld

ⒼⒷ Command/response sequence to set the volume to 45dB in Zone 1:

Ⓕ Séquence commande/réponse pour régler le volume de la zone 1 sur 45 dB :

ⒼⒹ Befehls-/Rückmeldesequenz zur Einstellung der Lautstärke in Zone 1 auf 45 dB:

ⒼⒿ Opdracht- en responsreeks om het volume in Zone 1 op 45 dB in te stellen:

■ Com.: **PC\_011** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_0P11** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                         |
|-------|----------------------------------------------------------------------------------------------------------------------|
| CC    | '0' (0x30) (Command code)                                                                                            |
| P1    | Zone:<br>'1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                                                                  |
| P2    | Request:<br>0 – 100 (Volume for Zone 1, in dB) +<br>'0' (0x30)<br>20 – 83 (Volume for Zone 2, in dB) +<br>'0' (0x30) |

#### RESPONSE:

| Byte: | Description:                                                     |
|-------|------------------------------------------------------------------|
| RC    | '0' (0x30) (Reply Code)                                          |
| AC    | Answer code                                                      |
| P1    | '1' (0x31) – Zone 1<br>'2' (0x32) – Zone 2                       |
| P2    | Response:<br>0 – 100 (New volume of zone, in dB)<br>+ '0' (0x30) |

## Video selection / Sélection de la vidéo / Auswahl der Videoquelle / Videoselectie

ⒼⒷ Changes the video input for the main zone.

Ⓕ Change l'entrée vidéo de la zone principale.

ⒼⒹ Änderung der Videoquelle der Hauptzone.

ⒼⒿ De video-ingang voor de hoofdzone wijzigen.

### Example / Exemple / Beispiel / Voorbeeld

ⒼⒷ Command/response sequence to change the video source for the main zone to 'AUX':

Ⓕ Séquence commande/réponse pour remplacer la source vidéo de la zone principale par AUX :

ⒼⒹ Befehls-/Rückmeldesequenz zur Änderung der Videoquelle der Hauptzone auf „AUX“ stellt sich beispielsweise dar wie folgt:

ⒼⒿ Opdracht- en responsreeks om de videobron voor de hoofdzone naar 'AUX' te wijzigen:

■ Com.: **PC\_213** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_2P13** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                  |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '2' (0x32) (Command code)                                                                                                                     |
| P1    | '1' (0x31) – Zone 1                                                                                                                           |
| P2    | Source:<br>'0' (0x30) – DVD<br>'1' (0x31) – SAT<br>'2' (0x32) – AV<br>'3' (0x33) – AUX<br>'4' (0x34) – VCR<br>'9' (0x39) – Req. current input |

#### RESPONSE:

| Byte: | Description:                                                           |
|-------|------------------------------------------------------------------------|
| RC    | '2' (0x32) (Reply Code)                                                |
| AC    | Answer code                                                            |
| P1    | '1' (0x31) – Zone 1                                                    |
| P2    | Response:<br>The current video source is returned, as for the command. |

## Direct mode / Mode Direct / Direktmodus / Modus Direct

- Ⓔ Change the stand-by state of a zone.
- Ⓕ Modifiez l'état de veille d'une zone.
- Ⓖ Ändern des Stand-by-Zustands einer Zone.
- Ⓝ De standby-status van een zone wijzigen.

### Example / Exemple / Beispiel / Voorbeeld

- Ⓔ Command/response sequence to switch 'Direct mode' on:
- Ⓕ Séquence commande/réponse pour activer le mode Direct :
- Ⓖ Befehls-/Rückmeldesequenz zur Aktivierung des Direktmodus:
- Ⓝ Opdracht- en responsreeks om modus Direct in te schakelen:

- Com.: **PC\_311** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
- Resp.: **AV\_3P11** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                             |
|-------|--------------------------------------------------------------------------------------------------------------------------|
| CC    | '3' (0x33) (Command code)                                                                                                |
| P1    | '1' (0x31) – Zone 1                                                                                                      |
| P2    | Request:<br>'0' (0x30) – Set 'Direct Mode' off<br>'1' (0x31) – Set 'Direct Mode' on<br>'9' (0x39) – Request mode setting |

#### RESPONSE:

| Byte: | Description:                                                                       |
|-------|------------------------------------------------------------------------------------|
| RC    | '3' (0x33) (Reply Code)                                                            |
| AC    | Answer code                                                                        |
| P1    | '1' (0x31) – Zone 1                                                                |
| P2    | Response:<br>'0' (0x30) – 'Direct mode' is off<br>'1' (0x31) – 'Direct mode' is on |

## Decode mode – two-channel / Mode de décodage – deux canaux / Dekodiermodus – Zweikanal / Decoderingsmodus – tweekanaals

- Ⓔ Set the decode mode for two-channel material.
- Ⓕ Réglez le mode de décodage pour le matériau à double canal.
- Ⓖ Einstellen des Dekodiermodus auf Zweikanalmaterial.
- Ⓝ De decoderingsmodus voor tweekanaals materiaal instellen.

### Example / Exemple / Beispiel / Voorbeeld

- Ⓔ Command/response sequence to change the decode mode to Pro Logic IIX Movie Mode:
- Ⓕ Séquence commande/réponse pour remplacer le mode de décodage par le mode Pro Logic IIX Movie :
- Ⓖ Befehls-/Rückmeldesequenz zur Änderung des Dekodiermodus in den Modus „Pro Logic IIX Movie“:
- Ⓝ Opdracht- en responsreeks om de decoderingsmodus te wijzigen naar de modus Pro Logic IIX Movie:

- Com.: **PC\_413** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
- Resp.: **AV\_4P13** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                                                                                                                                                                                                                      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '4' (0x34) (Command code)                                                                                                                                                                                                                                                                                                                         |
| P1    | '1' (0x31) – Zone 1                                                                                                                                                                                                                                                                                                                               |
| P2    | '.' (0x2e) – Mono<br>'/' (0x2f) – Stereo<br>'0' (0x30) – Pro Logic II Movie Mode<br>'1' (0x31) – Pro Logic II Music Mode<br>'3' (0x33) – Pro Logic IIX Movie Mode<br>'4' (0x34) – Pro Logic IIX Music Mode<br>'6' (0x36) – Dolby Pro Logic Emulation<br>'7' (0x37) – Neo:6 Cinema<br>'8' (0x38) – Neo:6 Music<br>'9' (0x39) – Request decode mode |

#### RESPONSE:

| Byte: | Description:                                                          |
|-------|-----------------------------------------------------------------------|
| RC    | '4' (0x34) (Reply Code)                                               |
| AC    | Answer code                                                           |
| P1    | '1' (0x31) – Zone 1                                                   |
| P2    | Response:<br>The current decode mode is returned, as for the command. |

## Decode mode – multi-channel / Mode de décodage – multicanal / Dekodiermodus – Mehrkanal / Decoderingsmodus – meerkanaals

- Ⓔ Set the decode mode for multi-channel material.
- Ⓕ Réglez le mode de décodage pour le matériau multicanal.
- Ⓖ Einstellen des Dekodiermodus auf Mehrkanalmaterial.
- Ⓝ De decoderingsmodus voor meerkanaals materiaal instellen.

### Example / Exemple / Beispiel / Voorbeeld

- Ⓔ Command/response sequence to change the decode mode to Pro Logic IIX Movie Mode:
- Ⓕ Séquence commande/réponse pour remplacer le mode de décodage par le mode Pro Logic IIX Movie :
- Ⓖ Befehls-/Rückmeldesequenz zur Änderung des Dekodiermodus in den Modus „Pro Logic IIX Movie“:
- Ⓝ Opdracht- en responsreeks om de decoderingsmodus te wijzigen naar de modus Pro Logic IIX Movie:

- Com.: **PC\_512** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
- Resp.: **AV\_5P13** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                                                                                                                      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '5' (0x35) (Command code)                                                                                                                                                                                                                         |
| P1    | '1' (0x31) – Zone 1                                                                                                                                                                                                                               |
| P2    | '.' (0x2e) – Mono down-mix<br>'/' (0x2f) – Stereo down-mix<br>'0' (0x30) – Multi-channel mode<br>'1' (0x31) – Dolby EX mode<br>'2' (0x32) – Pro Logic IIX movie mode<br>'3' (0x33) – Pro Logic IIX music mode<br>'9' (0x39) – Request decode mode |

#### RESPONSE:

| Byte: | Description:                                                          |
|-------|-----------------------------------------------------------------------|
| RC    | '5' (0x35) (Reply Code)                                               |
| AC    | Answer code                                                           |
| P1    | '1' (0x31) – Zone 1                                                   |
| P2    | Response:<br>The current decode mode is returned, as for the command. |

**Effect / Effet / Effekt / Effect**

ⒼⒷ Set the effect mode for two-channel material.

An error message is returned if the selected effect is not available for the current source.

Ⓕ Réglez le mode d'effets pour le matériau à double canal.

Un message d'erreur s'affiche si l'effet sélectionné n'est pas disponible pour la source actuelle.

Ⓓ Einstellen des Effektmodus auf Zweikanalmaterial.

Falls der gewählte Effekt für die aktuelle Quelle nicht zur Verfügung steht, wird eine Fehlermeldung ausgegeben.

ⒼⒹ De effectmodus voor tweekanaals materiaal instellen.

Er wordt een foutbericht geretourneerd als het geselecteerde effect niet voor de huidige bron beschikbaar is.

**Example / Exemple / Beispiel / Voorbeeld**

ⒼⒷ Command/response sequence to change the effect mode to Party:

Ⓕ Séquence commande/réponse pour remplacer le mode d'effet par Party :

Ⓓ Befehls-/Rückmeldesequenz zur Änderung des Effektmodus in „Party“:

ⒼⒹ Opdracht- en responsreeks om de effectmodus naar 'Party' te wijzigen:

- Com.: **PC\_612** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
- Resp.: **AV\_6P12** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

**COMMAND:**

| Byte: | Description:                                                                                                                                                                             |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '6' (0x36) (Command code)                                                                                                                                                                |
| P1    | '1' (0x31) – Zone 1                                                                                                                                                                      |
| P2    | '0' (0x30) – Off<br>'1' (0x31) – Music<br>'2' (0x32) – Party<br>'3' (0x33) – Club<br>'4' (0x34) – Hall<br>'5' (0x35) – Sports<br>'6' (0x36) – Church<br>'9' (0x39) – Request effect mode |

**RESPONSE:**

| Byte: | Description:                                                          |
|-------|-----------------------------------------------------------------------|
| RC    | '6' (0x36) (Reply Code)                                               |
| AC    | Answer code                                                           |
| P1    | '1' (0x31) – Zone 1                                                   |
| P2    | Response:<br>The current effect mode is returned, as for the command. |

**Select analogue/digital /  
Sélection analogique/numérique /  
Analog/digital auswählen  
Analoog/digitaal selecteren**

ⒼⒷ Select an analogue/digital audio input for the current source.

Ⓕ Sélectionnez une entrée audio analogique/numérique pour la source actuelle.

Ⓓ Auswählen einer analogen oder digitalen Audioquelle als aktuelle Quelle.

ⒼⒹ Een analoge/digitale geluidsingang voor de huidige bron selecteren.

**Example / Exemple / Beispiel / Voorbeeld**

ⒼⒷ Command/response sequence to change the audio input to 'digital':

Ⓕ Séquence commande/réponse pour remplacer l'entrée audio par numérique :

Ⓓ Befehls-/Rückmeldesequenz zur Änderung der Audioquelle in „digital“:

ⒼⒹ Opdracht- en responsreeks om de geluidsingang naar 'digital' te wijzigen:

- Com.: **PC\_711** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
- Resp.: **AV\_7P11** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

**COMMAND:**

| Byte: | Description:                                                                                                                                                                                                   |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '7' (0x37) (Command code)                                                                                                                                                                                      |
| P1    | '1' (0x31) – Zone 1                                                                                                                                                                                            |
| P2    | '0' (0x30) – Use the analogue audio for the current source.<br>'1' (0x31) – Use the digital audio for the current source (if available).<br>'9' (0x39) – Request the audio type in use for the current source. |

**RESPONSE:**

| Byte: | Description:                                                                                                                                       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| RC    | '7' (0x37) (Reply Code)                                                                                                                            |
| AC    | Answer code                                                                                                                                        |
| P1    | '1' (0x31) – Zone 1                                                                                                                                |
| P2    | Response:<br>'0' (0x30) – The analogue audio is in use for the current source.<br>'1' (0x31) – The digital audio is in use for the current source. |

**Navigation / Navigation / Navigation / Navigatie**

ⒼⒷ Cursor/OK instructions.

Ⓕ Instructions Curseur/OK.

Ⓓ Cursor-/OK-Anweisungen

ⒼⒹ Instructies voor cursor/OK.

**Example / Exemple / Beispiel / Voorbeeld**

ⒼⒷ Command/response sequence to move the cursor up:

Ⓕ Séquence commande/réponse pour faire monter le curseur d'un niveau :

Ⓓ Befehls-/Rückmeldesequenz, um den Cursor nach oben zu bewegen:

ⒼⒹ Opdracht- en responsreeks om de cursor omhoog te bewegen:

- Com.: **PC\_81** : – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)
- Resp.: **AV\_8P1** : – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

**COMMAND:**

| Byte: | Description:                                                                                                                   |
|-------|--------------------------------------------------------------------------------------------------------------------------------|
| CC    | '8' (0x38) (Command code)                                                                                                      |
| P1    | '1' (0x31) – Zone 1                                                                                                            |
| P2    | '.' (0x3a) – Cursor up<br>';' (0x3b) – Cursor down<br>'<' (0x3c) – Cursor left<br>'=' (0x3d) – OK<br>'>' (0x3e) – Cursor right |

**RESPONSE:**

| Byte: | Description:                                     |
|-------|--------------------------------------------------|
| RC    | '8' (0x38) (Reply Code)                          |
| AC    | Answer code                                      |
| P1    | '1' (0x31) – Zone 1                              |
| P2    | Response:<br>The last cursor action is returned. |

## Store / Mémorisation / Speichern / Opslaan

ⒼⒷ Store the current frequency in a preset.

The value transmitted/returned for the preset is offset by 0x30.

■ Formula: actual preset = (received preset + 0x30)

Ⓕ Mémorisez la fréquence actuelle dans une présélection.

La valeur transmise/retournée pour la présélection est décalée de 0x30.

■ Formule : présélection réelle = (présélection reçue + 0x30)

Ⓓ Aktuelle Frequenz in einer Voreinstellung abspeichern.

Der übertragene/ausgegebene Wert der Voreinstellung ist um 0x30 versetzt.

■ Formel: aktuelle Voreinstellung = (empfangene Voreinstellung + 0x30)

Ⓐ De huidige frequentie in een voorinstelling opslaan.

De overgedragen/geretourneerde waarde voor de voorinstelling wordt met 0x30 verschoven.

■ Formule: feitelijke voorinstelling = (ontvangen voorinstelling + 0x30)

### Example / Exemple / Beispiel / Voorbeeld

ⒼⒷ Command/response sequence to store the current station into preset 30:

Ⓕ Séquence commande/réponse pour mémoriser la station actuelle dans la présélection 30 :

Ⓓ Befehls-/Rückmeldesequenz zur Speicherung des aktuellen Senders in der Voreinstellung 30 sieht beispielsweise wie folgt aus:

Ⓐ Opdracht- en responsreeks om het huidige station in voorinstelling 30 op te slaan:

■ Com.: **PC\_B~N** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_B~N**: – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                         |
|-------|------------------------------------------------------|
| CC    | 'B' (0x42) (Command code)                            |
| P1    | '~' (0x7e) (Reserved)                                |
| P2    | 1-30: the number of the preset to use, + '0' (0x30). |

#### RESPONSE:

| Byte: | Description:                                       |
|-------|----------------------------------------------------|
| RC    | 'B' (0x42) (Reply Code)                            |
| AC    | Answer code                                        |
| P1    | '~' (0x7e) (Reserved)                              |
| P2    | 1-30: the number of the preset used, + '0' (0x30). |

## Increment/Decrment Preset / Augmentation/diminution de la présélection/ Erhöhen/Verringern der Voreinstellung/ De voorinstelling verhogen/verlagen

ⒼⒷ Increment/decrement the current tuner preset.

The value returned for the new preset is offset by 0x30. To obtain the correct value, subtract 0x30 from the reported value.

■ Formula: actual preset = (reported preset – 0x30)

Ⓕ Augmentation/diminution de la présélection actuelle du tuner.

La valeur retransmise pour la nouvelle présélection est décalée de 0x30. Pour obtenir la valeur correcte, ôtez 0x30 de la valeur rapportée.

■ Formule : présélection réelle = (présélection rapportée + 0x30)

Ⓓ Erhöhen/Verringern der aktuellen Tuner-Voreinstellung.

Der ausgegebene Wert für die neue Voreinstellung ist um 0x30 versetzt.

Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten.

■ Formel: aktuelle Voreinstellung = (angegebene Voreinstellung + 0x30)

Ⓐ De huidige voorinstelling van tuner verhogen/verlagen.

De geretourneerde waarde voor de nieuwe voorinstelling wordt met 0x30 verschoven. Wilt u de juiste waarde verkrijgen, dan moet u 0x30 van de weergegeven waarde aftrekken.

■ Formule: feitelijke voorinstelling = (weergegeven voorinstelling – 0x30)

### Example / Exemple / Beispiel / Voorbeeld

ⒼⒷ Command/response sequence to increment the preset number from 9 to 10:

Ⓕ Séquence commande/réponse pour augmenter le nombre de présélection de 9 à 10 :

Ⓓ Befehls-/Rückmeldesequenz, um die Sendernummer von 9 auf 10 zu erhöhen:

Ⓐ Opdracht- en responsreeks om het voorinstellingsnummer van 9 naar 10 te verhogen:

■ Com.: **PC\_9~1** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_9P~**: – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                  |
|-------|-------------------------------------------------------------------------------------------------------------------------------|
| CC    | '9' (0x39) (Command code)                                                                                                     |
| P1    | '~' (0x7e) (Reserved)                                                                                                         |
| P2    | '0' (0x30) – Decrement tuner preset<br>'1' (0x31) – Increment tuner preset<br>'9' (0x39) – Request the current preset number. |

#### RESPONSE:

| Byte: | Description:                                                                      |
|-------|-----------------------------------------------------------------------------------|
| RC    | '9' (0x39) (Reply Code)                                                           |
| AC    | Answer code                                                                       |
| P1    | '~' (0x7e) (Reserved)                                                             |
| P2    | Response:<br>The preset number after the command has been processed, + '0' (0x30) |

## Tune / Réglage / Senderabstimmung / Afstemmen

Ⓖ Increment/Decrement the tuner frequency in 0.05MHz steps (FM) or 9/10KHz steps (AM).

The returned frequency is calculated as follows:

$$\text{AM freq. (kHz)} = (((1000's \& 100's) - 0x30) * 100) + ((10's \& 1's) - 0x30))$$

$$\text{FM freq. (MHz)} = \text{reported freq. (MHz)}$$

$$\text{FM freq. (kHz)} = (\text{reported freq. (kHz)} - 0x30)$$

For these reasons, this command may return values that cannot be translated into ASCII characters.

Ⓕ Augmentation/diminution de la fréquence du tuner en incréments de 0,05 MHz (FM) ou 9/10 KHz (AM).

La fréquence retransmise est calculée comme suit :

$$\text{Fréq. AM (kHz)} = (((1000's \& 100's) - 0x30) * 100) + ((10's \& 1's) - 0x30))$$

$$\text{Fréq. FM (MHz)} = \text{fréq. rapportée (MHz)}$$

$$\text{Fréq. FM (kHz)} = (\text{fréq. rapportée (kHz)} - 0x30)$$

C'est pourquoi la commande peut retransmettre des valeurs ne pouvant pas être traduites en caractères

Ⓖ Erhöhen oder Verringern der Tuner-Frequenz in Einheiten von 0,05 MHz (UKW) oder 9/10 kHz (MW).

Die ausgegebene Frequenz wird wie folgt berechnet:

$$\text{MW-Frequenz (kHz)} = (((x1.000 \text{ u. } x100) - 0x30) * 100) + ((x10 \& x1) - 0x30))$$

$$\text{UKW-Frequenz (MHz)} = \text{angegebene Frequenz (MHz)}$$

$$\text{UKW-Frequenz (kHz)} = (\text{angegebene Frequenz (kHz)} - 0x30)$$

Aus diesem Grund kann es vorkommen, dass der Befehl möglicherweise Werte liefert, die sich nicht als ASCII-Zeichen darstellen lassen.

Ⓖ De tunerfrequentie in stappen van 0,05 MHz (FM) of 9/10 KHz (AM) verhogen/verlagen.

De geretourneerde frequentie wordt als volgt berekend:

$$\text{AM-freq. (kHz)} = (((\text{duizendtallen en honderdtallen}) - 0x30) * 100) + ((\text{tientallen en eenheden}) - 0x30))$$

$$\text{FM-freq. (MHz)} = \text{gerapporteerde freq. (MHz)}$$

$$\text{FM-freq. (kHz)} = (\text{gerapporteerde freq. (kHz)} - 0x30)$$

Deze opdracht kan hierdoor waarden retourneren die niet naar ASCII-tekens omgezet kunnen worden.

### Example / Exemple / Beispiel / Voorbeeld

Ⓖ Command/response sequence to increment the FM tuning from 85.0MHz to 85.05MHz:

Ⓕ Séquence commande/réponse pour incrémenter le réglage FM de 85,0 MHz à 85,05 MHz :

Ⓖ Befehls-/Rückmeldesequenz zur Erhöhung der UKW-Frequenz von 85 auf 85,05 MHz:

Ⓖ Opdracht- en responsreeks om de FM-afstemming van 85,0 MHz naar 85,05 MHz te verhogen:

■ Com.: **PC\_@~1** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_@P5:** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

#### COMMAND:

| Byte: | Description:                                                                                                                                                |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | '@' (0x40) (Command code)                                                                                                                                   |
| P1    | '~' (0x7e) (Reserved)                                                                                                                                       |
| P2    | '0' (0x30) – Decrement tuner frequency by 1 step.<br>'1' (0x31) – Increment tuner frequency by 1 step.<br>'9' (0x39) – Request the current tuner frequency. |

#### RESPONSE:

| Byte: | Description:                                                                               |
|-------|--------------------------------------------------------------------------------------------|
| RC    | '@' (0x40) (Reply Code)                                                                    |
| AC    | Answer code                                                                                |
| P1    | AM: New frequency<br>(1000's & 100's kHz) + '0' (0x30)<br>FM: New frequency (MHz)          |
| P2    | AM: New frequency<br>(10's & 1's kHz) + '0' (0x30)<br>FM: New frequency (kHz) + '0' (0x30) |

## RDS / Système RDS / RDS / RDS

Ⓖ Change the RDS display mode.

Ⓕ Modifiez le mode d'affichage RDS.

Ⓖ Ändern des RDS-Anzeigemodus.

Ⓖ De RDS-displaymodus wijzigen.

### Example / Exemple / Beispiel / Voorbeeld

Ⓖ Command/response sequence to set the display to the station name:

Ⓕ Séquence commande/réponse pour régler l'affichage sur le nom de la station :

Ⓖ Befehls-/Rückmeldesequenz zur Anzeige des Sendernamens:

Ⓖ Opdracht- en responsreeks om het display op de stationsnaam in te stellen:

■ Com.: **PC\_A~1** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd)

■ Resp.: **AV\_A~1:** – followed by/suivie d'un/gefolgt von/gevolgd door (0xd).

#### COMMAND:

| Byte: | Description:                                                                                                                                                            |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CC    | 'A' (0x41) (Command code)                                                                                                                                               |
| P1    | '~' (0x7e) (Reserved)                                                                                                                                                   |
| P2    | '0' (0x30) – Show the current frequency.<br>'1' (0x31) – Show the station name.<br>'2' (0x32) – Show the station text.<br>'9' (0x39) – Request the current RDS setting. |

#### RESPONSE:

| Byte: | Description:                                                                                                   |
|-------|----------------------------------------------------------------------------------------------------------------|
| RC    | 'A' (0x41) (Reply Code)                                                                                        |
| AC    | Answer code                                                                                                    |
| P1    | '~' (0x7e) (Reserved)                                                                                          |
| P2    | '0' (0x30) – Frequency is shown.<br>'1' (0x31) – Station name is shown.<br>'2' (0x32) – Station text is shown. |